90494

Access DB#_____

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BEN SACKEY Examiner #: 73489 Date: 4/1/03
Art Unit: 1626 Phone Number 305-6889 Serial Number: 10/070,361
Mail Box and Bldg/Room Location: CM1 3E11 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

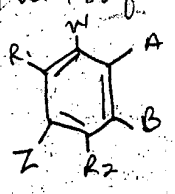
Title of Invention: Compositions and therapeutic methods involving isoflavanones

Inventors (please provide full names): Andrew Heaton et al.

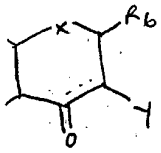
Earliest Priority Filing Date: 09/06/2000

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

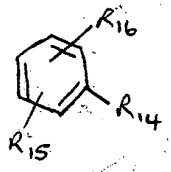
An isoflavone compound or analogue of formula (1).



wherein A and B together with the carbon atoms attached form



wherein Y is



X is -O-

R_{14} is, OH or ORq wherein Rq is alkyl

Elected species is 6-chloro-7-dihydroxy isoflavone

RECEIVED
APR 1 2003
STIC

R_1 is OH

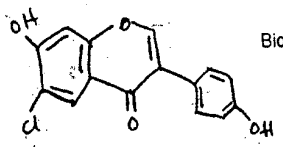
R_2 is H, alkyl

W is H

Z is Cl

R_5 is H

R_{16} is H



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Biotechnology & Chemical Library
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jan.delaval@uspto.gov

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Date Searcher Picked Up: 4/15/03

Date Completed: 4/15/03

Searcher Prep & Review Time: _____

Clerical Prep Time: 30

Online Time: +30

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) ✓
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

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Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

PTO-1590 (8-01)

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 14 APR 2003 HIGHEST RN 502958-40-9
DICTIONARY FILE UPDATES: 14 APR 2003 HIGHEST RN 502958-40-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

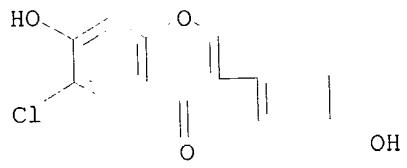
Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d ide can 19

L9 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 139256-07-8 REGISTRY
CN 4H-1-Benzopyran-4-one, 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF **C15 H9 Cl O4**
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
5 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:242178

REFERENCE 2: 137:88466

REFERENCE 3: 134:207652

REFERENCE 4: 122:187165

REFERENCE 5: 116:105915

Jan Delaval
Reference Librarian
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=> d his 19-

     (FILE 'REGISTRY' ENTERED AT 11:20:26 ON 15 APR 2003)
L9             1 S L7 NOT L8

     FILE 'HCAOLD' ENTERED AT 11:22:22 ON 15 APR 2003
L10            0 S L9

     FILE 'USPATFULL, USPAT2' ENTERED AT 11:22:25 ON 15 APR 2003
L11            0 S L9

     FILE 'HCAPLUS' ENTERED AT 11:22:31 ON 15 APR 2003
L12            5 S L9
L13            3 S L12 AND (HEATON ? OR KUMAR ? OR KELLY ? OR HUSBAND ?)/AU
L14            3 S L12 AND NOVOGEN?/PA,CS
L15            5 S L12-L14

     FILE 'REGISTRY' ENTERED AT 11:23:46 ON 15 APR 2003

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FILE 'HCAPLUS' ENTERED AT 11:23:56 ON 15 APR 2003
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FILE COVERS 1907 - 15 Apr 2003  VOL 138 ISS 16
FILE LAST UPDATED: 14 Apr 2003  (20030414/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

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 L15  ANSWER 1 OF 5  HCAPLUS  COPYRIGHT 2003 ACS
 AN   2002:736111  HCAPLUS
 DN   137:242178
 TI   Isoflavone compounds for inhibition of endothelial cell adhesion molecules
      and treatment of restenosis and other cardiovascular conditions
 IN   Husband, Alan; Kelly, Graham Edmund
 PA   Novogen Research Pty. Ltd., Australia
 SO   PCT Int. Appl., 100 pp.
      CODEN: PIXXD2
 DT   Patent
 LA   English
 IC   ICM  A61K031-352
      ICS  A61P009-10
 CC   1-8 (Pharmacology)
      Section cross-reference(s): 63
 FAN.CNT 1
      PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
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PI WO 2002074307 A1 20020926 WO 2002-AU288 20020315
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI AU 2001-3770 A 20010316
AU 2001-5926 A 20010626
OS MARPAT 137:242178
AB A method is provided for inhibiting expression or activity of an adhesion mol. or mol. assocd. with an endothelial cell by contacting the adhesion mol. or endothelial cell with one or more isoflavone compds. or derivs. thereof. Also provided are a method of preventing or reducing the risk of restenosis after angioplasty, and a method for the treatment or prophylaxis of atherosclerosis, coronary artery diseases, other cardiovascular diseases, and inflammatory diseases mediated by adhesion mols. The invention further provides pharmaceutical compns. useful in these methods, as well as methods for the manuf. of such medicaments.
ST isoflavone endothelial cell adhesion mol inhibition; restenosis angioplasty cardiovascular disease inflammation isoflavone; atherosclerosis coronary artery disease isoflavone
IT Selectins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(E-; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)
IT Lipoprotein receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(LDL; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)
IT Cell adhesion molecules
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(VCAM-1; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)
IT Heart, disease
(angina pectoris; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)
IT Artery
(angioplasty, restenosis after; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)
IT Antiarteriosclerotics
(antiatherosclerotics; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)
IT Artery
(atherectomy, direction coronary atherectomy; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)
IT Artery, disease
(coronary; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)
IT Blood vessel
(endothelium; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)
IT Lipoproteins

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(high-d.; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Anti-inflammatory agents
Antihypertensives
Antioxidants
Atherosclerosis
Blood vessel, disease
Cardiovascular agents
Cell migration
Cytotoxic agents
Drug delivery systems
Human
Hypertension
Inflammation
Transplant and Transplantation
Vasodilators
(isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Cell adhesion molecules
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Flavones
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(isoflavones; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Lipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(low-d., oxidized; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Lipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(low-d.; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Blood vessel
(procedural vascular trauma; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Artery, disease
(restenosis; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Blood vessel, disease
(small vessel disease; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Blood vessel
(smooth muscle; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Medical goods
(stents; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Blood vessel
(surgery; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT Surgery

(vascular; isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

IT 1406-18-4, Vitamin E 23531-69-3, .alpha.-Tocopheroxyl radical
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

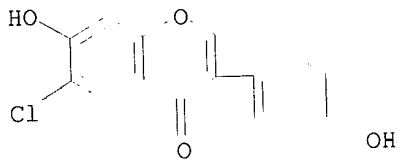
IT 446-72-0 485-72-3 486-66-8 491-80-5 17238-05-0 21255-69-6
21554-71-2 40957-83-3, Glycitein 62845-21-0 81267-63-2 81267-65-4
88040-00-0 94105-90-5 **139256-07-8** 145917-93-7 153409-51-9
168207-15-6 168207-16-7 288267-00-5 288267-03-8 288267-04-9
288267-05-0 328406-44-6 328406-47-9 328406-49-1 351216-89-2,
Promensil 442150-42-7 442150-43-8 442150-44-9 442150-46-1
442150-54-1 442150-61-0
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) G J Consultants Pty Ltd; WO 0066576 A 2000 HCAPLUS
(2) Johnson & Johnson Consumer Companies Inc; WO 0054753 A 2000 HCAPLUS
(3) Kelly, S; American Journal of Physiology 1998, V274(2 Pt 2), PH513 MEDLINE
(4) May, M; Journal of Pharmacology 1996, V118(7), P1761 HCAPLUS
(5) Novogen Research Pty Ltd; WO 0064438 A 2000 HCAPLUS
(6) Palmetshofer, A; Transplantation 1998, V65(7), P971 HCAPLUS
(7) Protein Technologies InternationalInc; AU 2771400 A1 2000
(8) Schnyder; WO 0016759 A 2000 HCAPLUS
(9) Weber, C; Immunologic research 1996, V15(1), P30 HCAPLUS

IT **139256-07-8**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(isoflavone compds. for inhibition of endothelial cell adhesion mols. and treatment of restenosis and other cardiovascular conditions)

RN 139256-07-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



L15 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:539523 HCAPLUS
DN 137:88466
TI Isoflavones in combination with lipid-regulating agents for regulation of lipids and/or bone density, and compositions therefor
IN **Husband, Alan James**
PA **Novogen Research Pty Ltd., Australia**
SO PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K031-40
ICS A61K031-352; A61K035-78; A61K031-465; A61P009-10; A61P019-10
CC 1-10 (Pharmacology)
Section cross-reference(s): 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002055072	A1	20020718	WO 2002-AU42	20020116

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI AU 2001-2554 A 20010116

OS MARPAT 137:88466

AB A method and compns. are provided for regulating bone d. and/or circulating lipid levels in a subject which are based on the combined administration of at least one isoflavone, or functional deriv., equiv., or analog thereof, and at least one lipid-regulating drug. The method and compns. are applicable to the beneficial alteration of blood lipoprotein levels, the improvement of vascular compliance, the decrease in the propensity of thrombogenic events, the redn. in the risk of vascular disease, coronary heart disease, and arteriosclerosis, and to the treatment or prevention of osteoporosis.

ST cardiovascular drug isoflavone lipid regulating agent combination; osteoporosis drug isoflavone lipid regulating agent combination; bone density drug isoflavone lipid regulating agent combination; lipid regulation agent isoflavone combination

IT Sequestering agents
(bile acid-binding; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Artery, disease
(coronary; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Bone
(d.; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Lipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(high-d., cholesterol; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Lipids, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(hyperlipidemia; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Heart, disease
(ischemia; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Anti-ischemic agents
Antiarteriosclerotics
Anticholesteremic agents
Anticoagulants
Arteriosclerosis
Blood vessel, disease
Cardiovascular agents
Drug delivery systems
Hypercholesterolemia
Hypolipemic agents
Osteoporosis
Thrombosis
(isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Lipids, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Flavones
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(isoflavones; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Lipoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(low-d., cholesterol; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Bile acids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(resins binding; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Drug interactions
(synergistic; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Osteoporosis
(therapeutic agents; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT Glycerides, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(.omega.-3; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT 9028-35-7, HMG-CoA reductase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors; isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT 57-88-5, Cholesterol, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(isoflavone combination with lipid-regulating agent for regulation of lipids and/or bone d.)

IT 59-67-6, Nicotinic acid, biological studies 59-67-6D, Nicotinic acid, derivs. 446-72-0 446-72-0D, analogs and derivs. 485-72-3 485-72-3D, analogs and derivs. 486-66-8 486-66-8D, analogs and derivs. 491-80-5 491-80-5D, analogs and derivs. 897-46-1 897-46-1D, analogs and derivs. 943-45-3D, Fibric acid, derivs. 17238-05-0 17238-05-0D, analogs and derivs. 17817-31-1 17817-31-1D, analogs and derivs. 21255-69-6 21255-69-6D, analogs and derivs. 21554-71-2 21554-71-2D, analogs and derivs. 62845-21-0 62845-21-0D, analogs and derivs. 75330-75-5, Lovastatin 76397-85-8 76397-85-8D, analogs and derivs. 76397-87-0 76397-87-0D, analogs and derivs. 79902-63-9, Simvastatin 81093-37-0, Pravastatin 81267-63-2 81267-63-2D, analogs and derivs. 81267-65-4 81267-65-4D, analogs and derivs. 88040-00-0 88040-00-0D, analogs and derivs. 93957-54-1, Fluvastatin 94105-87-0 94105-87-0D, analogs and derivs. 94105-89-2 94105-89-2D, analogs and derivs. 94105-90-5 94105-90-5D, analogs and derivs. 134523-00-5, Atorvastatin **139256-07-8 139256-07-8D**, analogs and derivs. 145599-86-6, Cerivastatin 145917-92-6 145917-92-6D, analogs and derivs. 145917-93-7 145917-93-7D, analogs and derivs. 153409-51-9 153409-51-9D, analogs and derivs. 168207-15-6 168207-15-6D, analogs and derivs. 168207-16-7 168207-16-7D, analogs and derivs. 288267-00-5 288267-00-5D, analogs and derivs. 288267-03-8 288267-03-8D, analogs and derivs. 288267-04-9 288267-04-9D, analogs and derivs. 288267-05-0 288267-05-0D, analogs and derivs. 328406-44-6 328406-44-6D, analogs and derivs. 328406-47-9 328406-47-9D, analogs and derivs. 328406-49-1 328406-49-1D, analogs and derivs. 351217-32-8, Trinovin 442150-42-7 442150-42-7D, analogs and derivs. 442150-43-8 442150-43-8D, analogs and derivs.

442150-44-9 442150-44-9D, analogs and derivs. 442150-46-1
442150-46-1D, analogs and derivs. 442150-54-1 442150-54-1D, analogs
and derivs. 442150-61-0 442150-61-0D, analogs and derivs.
442150-68-7 442150-68-7D, analogs and derivs. 442150-70-1
442150-70-1D, analogs and derivs.
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(isoflavone combination with lipid-regulating agent for regulation of
lipids and/or bone d.)

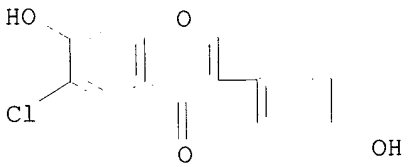
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

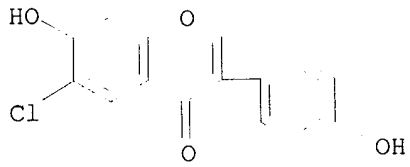
(1) Bristol-Myers Squibb Company; AU 1022795 A 1995
(2) Bristol-Myers Squibb Company; EP 671170 A 1995 HCAPLUS
(3) Kelly, G; WO 9323069 A 1993 HCAPLUS
(4) Novogen Research Pty Ltd; WO 0064438 A 2000 HCAPLUS
(5) Pfizer Inc; WO 9911260 A 1999 HCAPLUS
(6) Pfizer Products Inc; WO 9911263 A 1999 HCAPLUS
(7) Potter, S; US 5855892 A 1999 HCAPLUS

IT **139256-07-8 139256-07-8D**, analogs and derivs.
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(isoflavone combination with lipid-regulating agent for regulation of
lipids and/or bone d.)

RN 139256-07-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA
INDEX NAME)



RN 139256-07-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA
INDEX NAME)



L15 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:185742 HCAPLUS
DN 134:207652
TI Preparation of isoflavones as therapeutic agents with estrogen receptor
binding activity
IN **Heaton, Andrew; Kumar, Naresh; Kelly, Graham**
Edmund; Husband, Alan
PA **Novogen Research Pty. Ltd., Australia**
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07D311-36

ICS C07D311-38; C07D471-06; C07C049-215; C07C049-213; A61K031-12; A61K031-437; A61P005-00; A61P025-22; A61P025-24; A61P009-10; A61P019-10; A61P019-02; A61P017-06; A61P007-00; A61P035-00; A61P025-28; A61P017-04; A61P001-00

CC 26-4 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 1, 2, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001017986	A1	20010315	WO 2000-AU1056	20000906
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	BR 2000013777	A	20020507	BR 2000-13777	20000906
	EP 1210341	A1	20020605	EP 2000-960231	20000906
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003508526	T2	20030304	JP 2001-522209	20000906
	NO 2002001122	A	20020326	NO 2002-1122	20020306
PRAI	AU 1999-2661	A	19990906		
	WO 2000-AU1056	W	20000906		

OS MARPAT 134:207652

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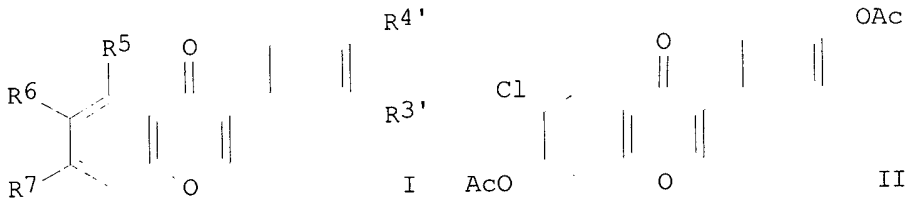


AB Isoflavanoids, such as I [R3', R4', R7 = H, OH, OAc, etc.; R5 = H, OH, OAc, Me, etc.; R6 = H, Cl, etc.], were prepd. for pharmaceutical use in the treatment of diseases assocd. with estrogenic or androgenic effects. Thus, isoflavone II was prepd. in 75% yield by acetylation of 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)-4H-1-benzopyran-4-one with acetic anhydride in pyridine. The prepd. isoflavanoids were tested for binding affinity for both subtypes of the estrogen receptor.

ST isoflavanoid prepn estrogen receptor binding

IT Isoflavonoids
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(prepn. of isoflavones with estrogen receptor binding activity for pharmaceutical use)

IT Estrogen receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(prepn. of isoflavones with estrogen receptor binding activity for pharmaceutical use)

IT 328406-42-4P 328406-43-5P 328406-45-7P 328406-47-9P 328406-50-4P 328406-51-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(prepn. of isoflavones with estrogen receptor binding activity for pharmaceutical use)

IT 62845-21-0 81267-50-7 81267-53-0 **139256-07-8**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(prepn. of isoflavones with estrogen receptor binding activity for pharmaceutical use)

IT 65998-43-8P 65998-44-9P 81267-61-0P 81267-67-6P 328406-44-6P
328406-46-8P 328406-48-0P 328406-49-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of isoflavones with estrogen receptor binding activity for pharmaceutical use)

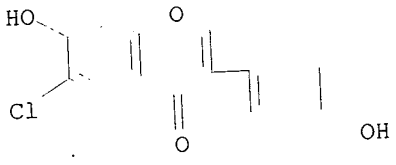
IT 108-73-6, 1,3,5-Benzenetriol 328406-52-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of isoflavones with estrogen receptor binding activity for pharmaceutical use)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Anticancer Inc; WO 9848790 A1 1998 HCAPLUS
(2) Bannerjee; J Electrochem Soc India 1998, V47(4), P237 HCAPLUS
(3) Children'S Hospital Oakland Research Institute; WO 9918953 A1 1999 HCAPLUS
(4) Laboratoire L Lafon; WO 0003707 A1 2000 HCAPLUS
(5) Lamberton; Aust J Chem 1978, V31(2), P455 HCAPLUS
(6) Liepa; Aust J Chem 1981, V34(12), P2647 HCAPLUS
(7) Lyonnaise Industrielle Pharmaceutique; FR 2693724 A1 1994 HCAPLUS
(8) New Standard Gmbh; DE 4432947 A1 1996 HCAPLUS
(9) Novogen Research Pty Ltd; WO 9808503 A1 1998 HCAPLUS
(10) Novogen Research Pty Ltd; WO 9936050 A1 1999 HCAPLUS
(11) Ota Isan Kk; JP 01226824 A 1989 HCAPLUS
(12) Wahala; Heterocycles 1989, V28(1), P183 HCAPLUS
(13) Weidenborner; Phytochemistry 1990, V29(3), P801
(14) Zilliken; US 4157984 1979 HCAPLUS

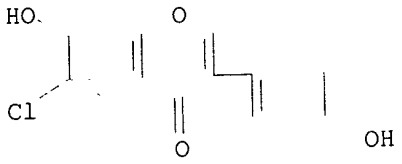
IT **139256-07-8**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(prepn. of isoflavones with estrogen receptor binding activity for pharmaceutical use)

RN 139256-07-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



L15 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2003 ACS
AN 1995:293255 HCAPLUS
DN 122:187165
TI Synthesis and labeling of isoflavone phytoestrogens, including daidzein and genistein

AU Waehaelae, Kristina; Hase, Tapio; Adlercreutz, Herman
CS Dep. Chemistry, Univ. Helsinki, Helsinki, FIN-00014, Finland
SO Proceedings of the Society for Experimental Biology and Medicine (1995), 208(1), 27-32
CODEN: PSEBAA; ISSN: 0037-9727
PB Blackwell
DT Journal
LA English
CC 26-4 (Biomolecules and Their Synthetic Analogs)
AB The synthesis of the important diphenolic isoflavone type of phytoestrogens starting from the corresponding unprotected phenols and arylacetic acids is discussed. The aryl rings may carry addnl. alkyl, methoxy, and/or halogeno groups. Intermediate polyhydroxydeoxybenzoins can also be isolated in good yield. Isotopically labeled isoflavone phytoestrogens were prepd. by H/D exchange in the complete mol. By this method the deuterated products are available in an isotopic purity of .gtoreq.90%.
ST isoflavone; arylacetate phenol acylation; deuteration daidzein genistein
IT Flavonoids
RL: SPN (Synthetic preparation); PREP (Preparation)
(iso-, oxo, prepn. and labeling of isoflavones from phenols and arylacetic acids)
IT 104-01-8, 4-Methoxyphenylacetic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and labeling of isoflavones from phenols and arylacetic acids)
IT 104411-13-4P 136466-47-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and labeling of isoflavones from phenols and arylacetic acids)
IT 87-66-1, 1,2,3-Benzenetriol 93-25-4, 2-Methoxyphenylacetic acid 95-88-5, 4-Chloro-1,3-benzenediol 103-82-2, Phenylacetic acid, reactions 106-44-5, 4-Methylphenol, reactions 108-46-3, 1,3-Benzenediol, reactions 108-73-6, 1,3,5-Benzenetriol 108-95-2, Phenol, reactions 120-80-9, 1,2-Benzenediol, reactions 156-38-7, 4-Hydroxyphenylacetic acid 306-08-1, 4-Hydroxy-3-methoxyphenylacetic acid 504-15-4, 5-Methyl-1,3-benzenediol 533-73-3, 1,3,4-Benzenetriol 608-25-3, 2-Methyl-1,3-benzenediol 614-75-5, 2-Hydroxyphenylacetic acid 621-37-4, 3-Hydroxyphenylacetic acid 1798-09-0, 3-Methoxyphenylacetic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of isoflavones from phenols and arylacetic acids)
IT 487-49-0P 2491-31-8P 2491-32-9P 3669-41-8P 15485-65-1P 17720-60-4P 40456-49-3P 77316-95-1P 89019-83-0P 89019-84-1P 92549-46-7P 139256-02-3P 139256-03-4P 139256-04-5P 150295-88-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of isoflavones from phenols and arylacetic acids)
IT 446-72-0P, Genistein 485-72-3P, 7-Hydroxy-4'-methoxyisoflavone 486-66-8P, Daidzein 491-80-5P, 5,7-Dihydroxy-4'-methoxyisoflavone 574-12-9P, Isoflavone 4044-00-2P, 5,7-Dihydroxyisoflavone 13057-72-2P, 7-Hydroxyisoflavone 19725-36-1P 21913-98-4P 62845-21-0P 63909-40-0P, 7-Hydroxy-2'-methoxyisoflavone 75187-63-2P 89019-85-2P 118024-87-6P 139256-05-6P 139256-06-7P **139256-07-8P** 139256-08-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of isoflavones from phenols and arylacetic acids)
IT **139256-07-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of isoflavones from phenols and arylacetic acids)
RN 139256-07-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



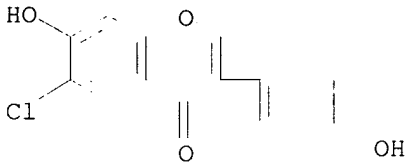
L15 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2003 ACS
AN 1992:105915 HCAPLUS
DN 116:105915
TI Expedient synthesis of polyhydroxyisoflavones
AU Wahala, Kristiina; Hase, Tapio A.
CS Dep. Chem., Univ. Helsinki, Helsinki, SF-00100, Finland
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1991), (12), 3005-8
CODEN: JCPRB4; ISSN: 0300-922X
DT Journal
LA English
CC 26-4 (Biomolecules and Their Synthetic Analogs)
OS CASREACT 116:105915
AB Polyhydroxyisoflavones (19 compds.) were prepd. by reaction of unprotected phenols with arylacetic acid in the presence of BF3.Et2O followed by treatment with MeSO2Cl. In many cases the intermediate deoxybenzoins were also isolated.
ST isoflavone polyhydroxy; deoxybenzoin polyhydroxy; phenol arylacetate condensation
IT Flavonoids
RL: SPN (Synthetic preparation); PREP (Preparation)
(iso-, hydroxy oxo, polyhydroxy-, prepn. of, from unprotected phenols and arylacetic acids)
IT 1835-11-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of)
IT 487-49-0P 2491-31-8P 2491-32-9P 3669-41-8P 15485-65-1P
17720-60-4P 40456-49-3P 52122-86-8P 77316-95-1P 89019-83-0P
89019-84-1P 92549-46-7P 139256-01-2P 139256-02-3P 139256-03-4P
139256-04-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and intramol. cyclocondensation of)
IT 306-08-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with phenols)
IT 67736-18-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 446-72-0P 485-72-3P 486-66-8P 491-80-5P 574-12-9P, Isoflavone
4044-00-2P 13057-72-2P 19725-36-1P 21913-98-4P 32684-57-4P
62845-21-0P 63909-40-0P 75187-63-2P 89019-85-2P 118024-87-6P
139256-05-6P 139256-06-7P **139256-07-8P** 139256-08-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, from phenol and phenylacetic acid)
IT 93-25-4, 2-Methoxyphenylacetic acid 103-82-2, Phenylacetic acid, reactions 104-01-8, 4-Methoxyphenylacetic acid 156-38-7, 4-Hydroxyphenylacetic acid 614-75-5, 2-Hydroxyphenylacetic acid 621-37-4, 3-Hydroxyphenylacetic acid 1798-09-0, 3-Methoxyphenylacetic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenols)
IT 87-66-1, 1,2,3-Benzenetriol 95-88-5, 4-Chloro-1,3-benzenediol

106-44-5, p-Cresol, reactions 108-46-3, m-Hydroquinone, reactions
108-73-6, 1,3,5-Benzenetriol 108-95-2, Phenol, reactions 120-80-9,
o-Hydroquinone, reactions 123-31-9, p-Hydroquinone, reactions
504-15-4, 5-Methyl-1,3-benzenediol 533-73-3, 1,3,4-Benzenetriol
608-25-3, 2-Methyl-1,3-benzenediol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenylacetic acids)

IT **139256-07-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, from phenol and phenylacetic acid)

RN 139256-07-8 HCAPLUS

CN 4H-1-Benzopyran-4-one, 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



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DICTIONARY FILE UPDATES: 14 APR 2003 HIGHEST RN 502958-40-9

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http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

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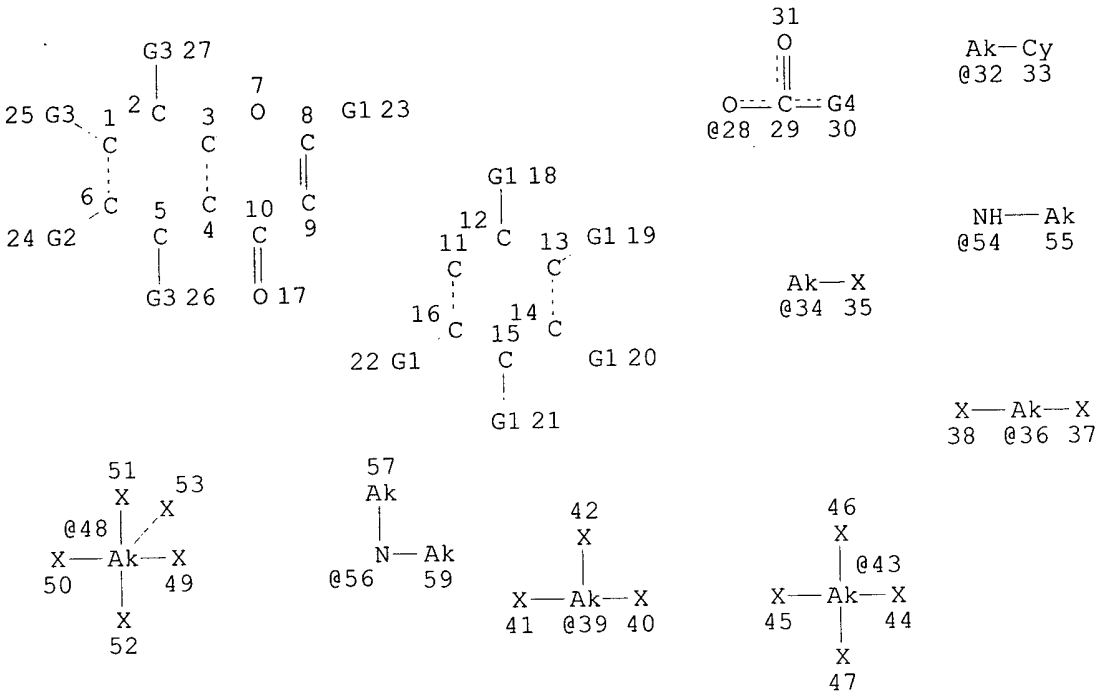
L2 128165 SEA FILE=REGISTRY ABB=ON PLU=ON L1 AND 46.150.18/RID
L16 STR



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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 58

STEREO ATTRIBUTES: NONE
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L4 12 S L3 NOT 4 ONE
L5 20 S L3 NOT L4
L6 16 S L5 NOT 6 CHLORO
L7 4 S L5 NOT L6
L8 3 S L7 NOT 7 HYDROXY
L9 1 S L7 NOT L8

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L10           0 S L9

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L11           0 S L9

     FILE 'HCAPLUS' ENTERED AT 11:22:31 ON 15 APR 2003
L12           5 S L9
L13           3 S L12 AND (HEATON ? OR KUMAR ? OR KELLY ? OR HUSBAND ?)/AU
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L15           5 S L12-L14

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L17           7 S L16 CSS SAM SUB=L2
L18         169 S L16 CSS FUL SUB=L2
                SAV L18 SACKEY070/A
L19         168 S L18 NOT L9
L20          11 S L19 AND C15H10O6
L21           1 S L20 AND 3 4 DIHYDROXYPHENYL AND 5 7 DIHYDROXY
L22           3 S L18 AND C16H12O3
L23           1 S L22 AND 7 METHYL
L24         166 S L19 NOT L21,L23

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L28          12 S L26 AND NOVOGEN?/PA,CS
L29          21 S L27,L28
L30        2704 S L26 AND (PD<=19990906 OR PRD<=19990906 OR AD<=19990906)
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                E WO2000-AU1056/AP,PRN
L32           1 S E3,E4
L33           1 S L32 AND L26
                E ESTROGEN RECEPTOR/CT
L34        8369 S E11-E18
                E E11+ALL
L35       13813 S E12,E11+NT
L36          86 S L30 AND L34,L35
L37          14 S L31,L33
L38           1 S L37 AND L34,L35
L39          14 S L37,L38
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L42           8 S L41 NOT ISOFLAVONE/CN

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L43         191 S L42
L44         166 S L43 AND L30
L45           2 S L44 AND L34,L35
L46           2 S L44 AND ?ESTROGEN?(L)RECEPTOR
L47           2 S L45,L46,L33,L38
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L48 45 S L44 AND P/DT
L49 18 S L48 AND US/PC
L50 19 S L47,L49

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L21 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 480-23-9 REGISTRY
CN **4H-1-Benzopyran-4-one, 3-(3,4-dihydroxyphenyl)-5,7-dihydroxy- (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Isoflavone, 3',4',5,7-tetrahydroxy- (7CI, 8CI)
OTHER NAMES:
CN 3',4',5,7-Tetrahydroxyisoflavone
CN 5,7,3',4'-Tetrahydroxyisoflavone
CN Isoluteolin
CN Orobol
FS 3D CONCORD
MF **C15 H10 O6**
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CHEMCATS, DDFU, DRUGU, EMBASE, MEDLINE, NAPRALERT, RTECS*, TOXCENTER, USPATFULL
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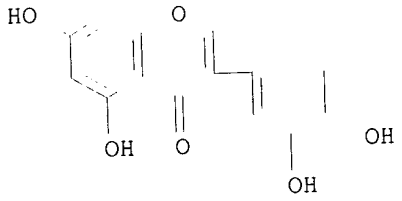

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3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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REFERENCE 2: 138:95264

REFERENCE 3: 138:69917

REFERENCE 4: 137:329286

REFERENCE 5: 137:252731

REFERENCE 6: 137:226166

REFERENCE 7: 137:37406

REFERENCE 8: 136:374545

REFERENCE 9: 136:345763

REFERENCE 10: 136:196995

L21 and L23 are excluded as per Examiner

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L23  ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2003 ACS
RN   155955-25-2  REGISTRY
CN   4H-1-Benzopyran-4-one, 5-hydroxy-7-methyl-3-phenyl- (9CI)  (CA
     INDEX NAME)
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MF   C16 H12 O3
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LC   STN Files:   CA, CAPLUS
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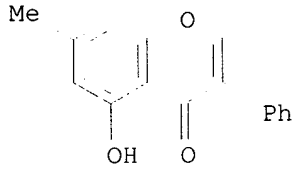


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               1 REFERENCES IN FILE CA (1962 TO DATE)
               1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE   1:  121:280544


=> s l40 not l42
L51           3 L40 NOT L42

=> d ide can tot

L51  ANSWER 1 OF 3  REGISTRY  COPYRIGHT 2003 ACS
RN   574-12-9  REGISTRY
CN   4H-1-Benzopyran-4-one, 3-phenyl- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Isoflavone (6CI, 7CI, 8CI)
OTHER NAMES:
CN   3-Phenylchromone
FS   3D CONCORD
MF   C15 H10 O2
CI   COM
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
       CHEMINFORMRX, CIN, CSCHEM, DDFU, DRUGU, EMBASE, HODOC*, IFICDB, IFIPAT,
       IFIUDB, MRCK*, NAPRALERT, PIRA, PROMT, SPECINFO, TOXCENTER, USPAT2,
       USPATFULL
         (*File contains numerically searchable property data)
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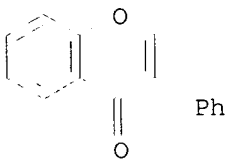


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

423 REFERENCES IN FILE CA (1962 TO DATE)
63 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
425 REFERENCES IN FILE CAPLUS (1962 TO DATE)
12 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:204203

REFERENCE 2: 138:203825

REFERENCE 3: 138:152800

REFERENCE 4: 138:152532

REFERENCE 5: 138:152521

REFERENCE 6: 138:126767

REFERENCE 7: 138:122018

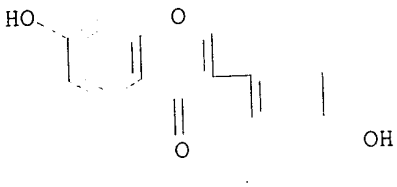
REFERENCE 8: 138:95244

REFERENCE 9: 138:89093

REFERENCE 10: 138:72288

I excluded these 3 cmpds from Biblios. search

L51 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2003 ACS
RN **486-66-8** REGISTRY
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Daidzein (6CI)
CN Isoflavone, 4',7-dihydroxy- (8CI)
OTHER NAMES:
CN 4',7-Dihydroxyisoflavone
CN 7,4'-Dihydroxyisoflavone
CN 7-Hydroxy-3-(4-hydroxyphenyl)-4H-1-benzopyran-4-one
CN Daidzeol
CN K 251b
CN NPI 031E
FS 3D CONCORD
MF C15 H10 O4
CI COM
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DRUGU, DRUGUPDATES, EMBASE, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, NIOSHTIC, PROMT, RTECS*, SPECINFO, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



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1655 REFERENCES IN FILE CA (1962 TO DATE)
30 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1666 REFERENCES IN FILE CAPLUS (1962 TO DATE)
24 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:247754

REFERENCE 2: 138:237329

REFERENCE 3: 138:231731

REFERENCE 4: 138:220683

REFERENCE 5: 138:220511

REFERENCE 6: 138:217754

REFERENCE 7: 138:217309

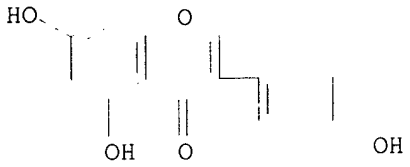
REFERENCE 8: 138:214863

REFERENCE 9: 138:204084

REFERENCE 10: 138:198885

L51 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2003 ACS
RN **446-72-0** REGISTRY
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Genistein (6CI)
CN Isoflavone, 4',5,7-trihydroxy- (8CI)
OTHER NAMES:
CN 4',5,7-Trihydroxyisoflavone
CN 5,7,4'-Trihydroxyisoflavone
CN Baichanin A
CN C.I. 75610
CN Genisteol
CN Genisterin
CN NPI 031L
CN Prunetol
CN SIPI 807-1
CN Sophoricol
FS 3D CONCORD
MF C15 H10 O5
CI COM
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DRUGU, EMBASE, HODOC*, IPA, MEDLINE, MRCK*, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, USPAT2, USPATFULL

(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



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3017 REFERENCES IN FILE CAPLUS (1962 TO DATE)
34 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:247754

REFERENCE 2: 138:237368

REFERENCE 3: 138:237329

REFERENCE 4: 138:233288

REFERENCE 5: 138:232811

REFERENCE 6: 138:231731

REFERENCE 7: 138:231519

REFERENCE 8: 138:231280

REFERENCE 9: 138:226343

REFERENCE 10: 138:220683

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 11:48:31 ON 15 APR 2003
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FILE COVERS 1907 - 15 Apr 2003 VOL 138 ISS 16
FILE LAST UPDATED: 14 Apr 2003 (20030414/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all hitstr tot 150

L50 ANSWER 1 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:185742 HCAPLUS
DN 134:207652
TI Preparation of isoflavones as therapeutic agents with **estrogen receptor** binding activity
IN **Heaton, Andrew; Kumar, Naresh; Kelly, Graham Edmund; Husband, Alan**
PA **Novogen Research Pty. Ltd., Australia**
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07D311-36
ICS C07D311-38; C07D471-06; C07C049-215; C07C049-213; A61K031-12; A61K031-437; A61P005-00; A61P025-22; A61P025-24; A61P009-10; A61P019-10; A61P019-02; A61P017-06; A61P007-00; A61P035-00; A61P025-28; A61P017-04; A61P001-00
CC 26-4 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 1, 2, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001017986	A1	20010315	WO 2000-AU1056	20000906 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	BR 2000013777	A	20020507	BR 2000-13777	20000906 <--
	EP 1210341	A1	20020605	EP 2000-960231	20000906 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003508526	T2	20030304	JP 2001-522209	20000906 <--
	NO 2002001122	A	20020326	NO 2002-1122	20020306 <--
PRAI	AU 1999-2661	A	19990906 <--		
	WO 2000-AU1056	W	20000906 <--		

OS MARPAT 134:207652
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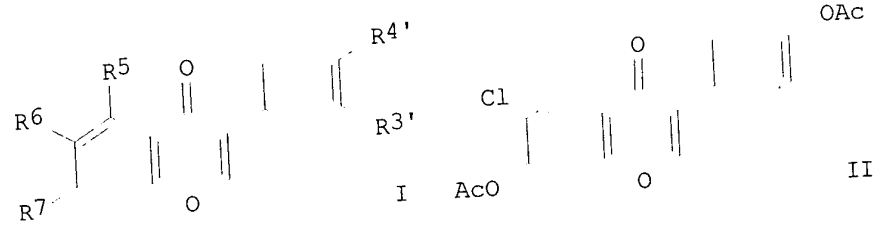


AB Isoflavanoids, such as I [R3', R4', R7 = H, OH, OAc, etc.; R5 = H, OH, OAc, Me, etc.; R6 = H, Cl, etc.], were prepd. for pharmaceutical use in the treatment of diseases assocd. with **estrogenic** or androgenic effects. Thus, isoflavone II was prepd. in 75% yield by acetylation of 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)-4H-1-benzopyran-4-one with acetic anhydride in pyridine. The prepd. isoflavanoids were tested for binding affinity for both subtypes of the **estrogen receptor**.

ST isoflavanoid prepn **estrogen receptor** binding

IT Isoflavonoids
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(prepn. of isoflavones with **estrogen receptor** binding activity for pharmaceutical use)

IT **Estrogen receptors**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(prepn. of isoflavones with **estrogen receptor** binding activity for pharmaceutical use)

IT 328406-42-4P 328406-43-5P 328406-45-7P 328406-47-9P 328406-50-4P 328406-51-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(prepn. of isoflavones with **estrogen receptor** binding activity for pharmaceutical use)

IT **62845-21-0** 81267-50-7 81267-53-0 139256-07-8
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(prepn. of isoflavones with **estrogen receptor** binding activity for pharmaceutical use)

IT 65998-43-8P 65998-44-9P 81267-61-0P 81267-67-6P 328406-44-6P 328406-46-8P 328406-48-0P 328406-49-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of isoflavones with **estrogen receptor** binding activity for pharmaceutical use)

IT 108-73-6, 1,3,5-Benzenetriol 328406-52-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of isoflavones with **estrogen receptor** binding activity for pharmaceutical use)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

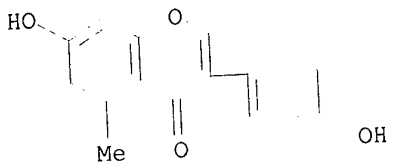
RE

(1) Anticancer Inc; WO 9848790 A1 1998 HCAPLUS
(2) Bannerjee; J Electrochem Soc India 1998, V47(4), P237 HCAPLUS
(3) Children'S Hospital Oakland Research Institute; WO 9918953 A1 1999 HCAPLUS
(4) Laboratoire L Lafon; WO 0003707 A1 2000 HCAPLUS
(5) Lamberton; Aust J Chem 1978, V31(2), P455 HCAPLUS
(6) Liepa; Aust J Chem 1981, V34(12), P2647 HCAPLUS
(7) Lyonnaise Industrielle Pharmaceutique; FR 2693724 A1 1994 HCAPLUS
(8) New Standard Gmbh; DE 4432947 A1 1996 HCAPLUS
(9) Novogen Research Pty Ltd; WO 9808503 A1 1998 HCAPLUS
(10) Novogen Research Pty Ltd; WO 9936050 A1 1999 HCAPLUS
(11) Ota Isan Kk; JP 01226824 A 1989 HCAPLUS
(12) Wahala; Heterocycles 1989, V28(1), P183 HCAPLUS
(13) Weidenborner; Phytochemistry 1990, V29(3), P801
(14) Zilliken; US 4157984 1979 HCAPLUS

IT **62845-21-0**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL

(Biological study); RACT (Reactant or reagent); USES (Uses)
(prepn. of isoflavones with **estrogen receptor** binding activity for pharmaceutical use)

RN 62845-21-0 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)-5-methyl- (9CI) (CA INDEX NAME)



L50 ANSWER 2 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:185741 HCAPLUS
DN 134:207651
TI Preparation of flavones, xanthones, and coumarins for pharmaceutical use in the treatment of cancer
IN Bombardelli, Ezio; Valenti, Piero
PA Indena S.p.A., Italy
SO PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM C07D311-30
ICS C07D311-36; C07D311-16; C07D311-86; A61K031-37; A61P035-00
CC 26-4 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 1, 27

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001017985	A1	20010315	WO 2000-EP8365	20000828 <--
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1212312	A1	20020612	EP 2000-958505	20000828 <--
	EP 1212312	B1	20030402		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003508524	T2	20030304	JP 2001-521732	20000828 <--
	US 2002183318	A1	20021205	US 2002-75628	20020215 <--
	NO 2002001050	A	20020503	NO 2002-1050	20020301 <--
PRAI	GB 1999-20912	A	19990903 <--		
	WO 2000-EP8365	W	20000828		

OS MARPAT 134:207651
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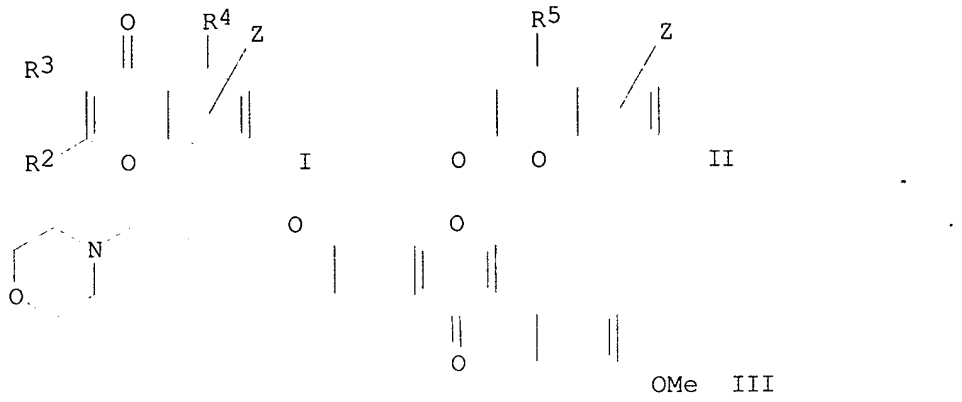


AB Flavones, xanthones, and coumarins, such as I and II [Z = OCH2C.tplbond.CCH2NRR1; R, R1 = H, alkyl; NRR1 = nitrogen contg. heterocyclyl, such as 1-piperidinyl or 4-morpholinyl; R2, R3 = H, substituted aryl, such as hydroxyphenyl, etc.; R4 = H, OH, alkoxy, etc.; R5 = H, alkyl], were prepd. for pharmaceutical use as modulators of multiple drug resistance in cancer chemotherapy and for possible use in the treatment or prevention of other disorders, such as menopausal disorders and osteoporosis. Thus, isoflavone deriv. III was prepd. by reacting 7-hydroxy-4'-methoxyisoflavone with propargyl bromide using K2CO3 and KI in acetone to form 7-(2-propynyloxy)-4'-methoxyisoflavone, which was then reacted with formaldehyde and morpholine using CuSO4 in EtOH and H2O to form III. The prepd. compds. were tested for cytotoxicity against drug resistant breast cancer cells MDA-435/LCC6-MDR.

ST flavone xanthone coumarin prepn antitumor agent

IT Antitumor agents
(prepn. of flavones, xanthones, and coumarins for pharmaceutical use in the treatment of cancer)

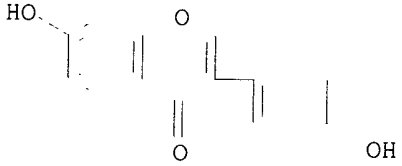
IT Flavonoids
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of flavones, xanthones, and coumarins for pharmaceutical use in the treatment of cancer)

IT 67268-57-9P 328564-16-5P 328564-17-6P 328564-18-7P 328564-19-8P
328564-20-1P 328564-21-2P 328564-22-3P 328564-23-4P 328564-24-5P
328564-25-6P 328564-26-7P 328564-27-8P 328564-28-9P 328564-29-0P
328564-30-3P 328564-31-4P 328564-32-5P 328564-33-6P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of flavones, xanthones, and coumarins for pharmaceutical use in the treatment of cancer)

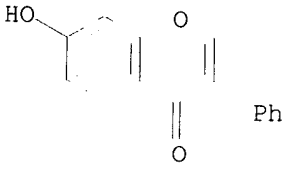
IT 90-33-5 106-96-7 109-89-7, reactions 110-89-4, Piperidine, reactions
110-91-8, Morpholine, reactions 123-75-1, Pyrrolidine, reactions
485-72-3 **486-66-8** 491-80-5 719-41-5 1915-98-6 2759-28-6
3722-51-8 6665-86-7 13004-42-7 **13057-72-2** 18651-15-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of flavones, xanthones, and coumarins for pharmaceutical use in the treatment of cancer)

IT 67091-11-6P 67268-43-3P 124039-97-0P 328564-08-5P,
7-(2-Propynyloxy)-4'-methoxyisoflavone 328564-09-6P 328564-10-9P
328564-11-0P 328564-12-1P 328564-13-2P 328564-14-3P 328564-15-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of flavones, xanthones, and coumarins for pharmaceutical use in

the treatment of cancer)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Allergan Inc; EP 0419132 A 1991 HCAPLUS
(2) Allergan Inc; WO 9518803 A 1995 HCAPLUS
(3) Francois, M; US 4151291 A 1979 HCAPLUS
(4) Jay, P; US 3513198 A 1970
(5) Petrow, V; JOURNAL OF PHARMACY AND PHARMACOLOGY 1958, V10, P86 HCAPLUS
IT **486-66-8 13057-72-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of flavones, xanthones, and coumarins for pharmaceutical use in the treatment of cancer)
RN 486-66-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



L50 ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:756511 HCAPLUS
DN 133:317571
TI **Estrogen receptor**-.beta. ligands for therapy
IN Barlaam, Bernard Christophe; Piser, Timothy Martin
PA Astrazeneca AB, Swed.
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM A61K031-00
CC 1-12 (Pharmacology)
Section cross-reference(s): 27, 28
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000062765	A2	20001026	WO 2000-GB1380	20000411 <--
	WO 2000062765	A3	20010907		

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RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,

DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

BR 2000009814 A 20020108 BR 2000-9814 20000411 <--
EP 1173164 A2 20020123 EP 2000-920872 20000411 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO
JP 2002542187 T2 20021210 JP 2000-611902 20000411 <--
EE 200100526 A 20021216 EE 2001-526 20000411 <--
NO 2001005015 A 20011217 NO 2001-5015 20011015 <--
US 6518301 B1 20030211 US 2002-959032 20020107 <--
PRAI US 1999-129901P P 19990416 <--
WO 2000-GB1380 W 20000411

OS MARPAT 133:317571

AB A method for treating a disease assocd. with the **estrogen receptor** (ER)-.beta. comprises the step of administering a therapeutically effective amt. of **estrogen receptor**-.beta.-selective ligands, which mimic **estrogen** replacement therapy (ERT), but lack undesirable side effects of ERT. The ligand satisfies the equation: (Ki.alpha.A/Ki.beta.A)/(Ki.alpha.E/Ki.beta.E) > 1, where Ki.alpha.A and Ki.beta.A are the Ki values for the agonists in ER-.alpha. and ER-.beta., and Ki.alpha.E and Ki.beta.E are the Ki values for **estrogens** in ER-.alpha. and ER-.beta., resp. Diseases assocd. with the ER-.beta. are Alzheimer's disease, anxiety, depression, osteoporosis, cardiovascular disease, rheumatoid arthritis, and prostate cancer. For example, (3-bromo-4-hydroxyphenyl)-5,7-dihydroxy-5H-1-benzopyran-4-one was prepd. using 1,3,5-trihydroxybenzaldehyde and 3-bromo-4-hydroxyphenylacetic acid as starting compds.

ST **estrogen receptor** ligand Alzheimer disease; antidepressant anxiolytic **estrogen receptor** ligand; antirheumatic **estrogen receptor** ligand; osteoporosis cardiovascular disease **estrogen receptor** ligand; prostate cancer **estrogen receptor** ligand

IT Anti-Alzheimer's agents
Antidepressants
Antirheumatic agents
Anxiolytics
Cardiovascular agents
(**estrogen receptor**-.beta. ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

IT **Estrogens**
Ligands
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**estrogen receptor**-.beta. ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

IT Hormone replacement therapy
(mimicking; **estrogen receptor**-.beta. ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

IT Prostate gland
Prostate gland
(neoplasm, inhibitors; **estrogen receptor**-.beta. ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

IT Antitumor agents
(prostate gland; **estrogen receptor**-.beta. ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

IT Osteoporosis
(therapeutic agents; **estrogen receptor**-.beta.

ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

IT **Estrogen receptors**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**.beta.**; **estrogen receptor-.beta.**
ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

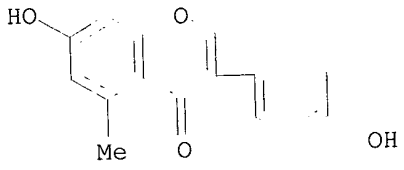
IT 480-23-9P 552-59-0P 5217-89-0P 5217-90-3P 6468-36-6P 6468-98-0P
13111-57-4P 15584-08-4P 15584-09-5P 18651-11-1P 18651-39-3P
21554-71-2P 24051-96-5P 24051-97-6P 31913-52-7P 36190-95-1P
40624-03-1P 62845-09-4P **62845-21-0P** 63046-09-3P
67295-48-1P **70943-68-9P** 91805-21-9P 94105-90-5P
96462-61-2P **96657-99-7P** 101068-31-9P 101068-34-2P
123731-49-7P 157405-88-4P 215435-34-0P 299951-78-3P 303012-54-6P
303012-55-7P 303012-56-8P 303012-57-9P 303012-58-0P 303012-59-1P
303012-60-4P 303012-61-5P 303012-62-6P 303012-63-7P 303012-64-8P
303012-65-9P 303012-66-0P 303012-67-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**estrogen receptor-**.beta. ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

IT 89-84-9 156-38-7, 4-Hydroxyphenylacetic acid 487-70-7, 2,4,6-Trihydroxybenzaldehyde 38692-80-7, 3-Bromo-4-hydroxyphenylacetic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(**estrogen receptor-**.beta. ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

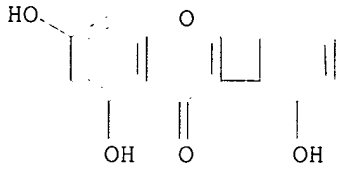
IT 303012-68-2P 303012-69-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(**estrogen receptor-**.beta. ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

IT **62845-21-0P 70943-68-9P 96657-99-7P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**estrogen receptor-**.beta. ligands for treatment of cardiovascular and neurol. disorders, rheumatoid arthritis, osteoporosis and prostate cancer)

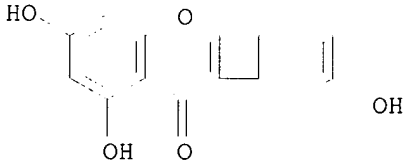
RN 62845-21-0 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)-5-methyl- (9CI) (CA INDEX NAME)



RN 70943-68-9 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 96657-99-7 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)

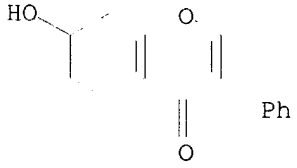


L50 ANSWER 4 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:597471 HCAPLUS
DN 131:199621
TI Multi-step preparation of high-purity ipriflavone
IN Ferrari, Massimo
PA Erregierre S.p.A., Italy
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT **Patent**
LA English
IC ICM C07D311-36
ICS A61K031-35
CC 27-14 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 26, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 941992	A1	19990915	EP 1999-103494	19990223 <--
	EP 941992	B1	20020508		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	IT 1298619	B1	20000112	IT 1998-MI483	19980310 <--
	US 5973169	A	19991026	US 1999-255043	19990222 <--
	JP 11292869	A2	19991026	JP 1999-60451	19990308 <--
PRAI	IT 1998-MI483	A	19980310 <--		

OS CASREACT 131:199621
AB Ipriflavone, a calcium regulator used in the treatment of osteoporosis (no data), is prepd. in high yield and selectivity by: (A) the cyclocondensation of 2,4-dihydroxyphenyl benzyl ketone (I) with Et orthoformate in DMF at 115-120.degree. using a I wt./solvent vol. (w/v) ratio of <1/4 and in the presence of morpholine as a catalyst to yield 7-hydroxyisoflavone (II); (B) sepn. of II from the reaction residue by its pptn. as its corresponding dicyclohexylamine salt, followed by neutralization with orthophosphoric acid to yield II; and (C) etherification of II with an iso-Pr halide (e.g., iso-Pr bromide) to give ipriflavone contg. .ltoreq.0.1% impurity.
ST ipriflavone manuf high purity; cyclocondensation manuf high purity ipriflavone; etherification manuf high purity ipriflavone
IT Precipitation (chemical)
(of 7-hydroxyisoflavone dicyclohexylamine salt in the prepn. of

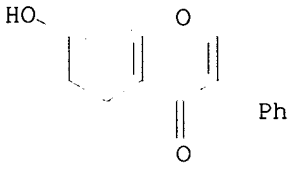
high-purity ipriflavone)
IT Etherification
(of 7-hydroxyisoflavone with iso-Pr bromide in the manuf. of high-purity ipriflavone)
IT Cyclocondensation reaction
(of benzyl 2,4-dihydroxyphenyl ketone with Et orthoformate in the prepn. of 7-hydroxyisoflavone)
IT 110-91-8, Morpholine, uses
RL: CAT (Catalyst use); USES (Uses)
(multi-step prepn. of high-purity ipriflavone)
IT **13057-72-2P**, 7-Hydroxyisoflavone **241804-59-1P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(multi-step prepn. of high-purity ipriflavone)
IT 35212-22-7P, Ipriflavone
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(multi-step prepn. of high-purity ipriflavone)
IT 75-26-3, Isopropyl bromide 101-83-7, Dicyclohexylamine 7664-38-2, Orthophosphoric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(multi-step prepn. of high-purity ipriflavone)
IT 122-51-0, Ethyl orthoformate 3669-41-8, 2,4-Dihydroxyphenyl benzyl ketone
RL: RCT (Reactant); RACT (Reactant or reagent)
(multi-step prepn. of high-purity ipriflavone from)
IT 68-12-2, uses 78-83-1, Isobutyl alcohol, uses 108-88-3, Toluene, uses 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; multi-step prepn. of high-purity ipriflavone)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; WO 15 1991 HCAPLUS
(2) Chinoin; WO 9115483 A 1991 HCAPLUS
(3) Szerves Vegyipari Fejleszto Kosos Vallalat; HU 55376 A HCAPLUS
IT **13057-72-2P**, 7-Hydroxyisoflavone **241804-59-1P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(multi-step prepn. of high-purity ipriflavone)
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



RN 241804-59-1 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl-, compd. with N-cyclohexylcyclohexanamine (1:1) (9CI) (CA INDEX NAME)

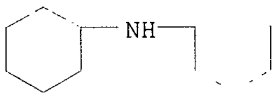
CM 1

CRN 13057-72-2
CMF C15 H10 O3



CM 2

CRN 101-83-7
CMF C12 H23 N



L50 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:113419 HCAPLUS
DN 126:122303
TI Hair growth promoting compositions containing isoflavanoid derivatives
IN Kung, Patrick C.; Li, Ze Zeng
PA Kung, Patrick, C., USA
SO PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM A01N043-16
ICS A61K031-35
CC 62-3 (Essential Oils and Cosmetics)
Section cross-reference(s): 1, 26, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9639832	A1	19961219	WO 1996-US8433	19960603 <--
	W: AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IL, IS, JP, KG, KP, KR, KZ, LK, LR, LS, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5639785	A	19970617	US 1995-484097	19950607 <--
	AU 9659704	A1	19961230	AU 1996-59704	19960603 <--
PRAI	US 1995-484097		19950607 <--		
	US 1996-659466		19960531 <--		
	WO 1996-US8433		19960603 <--		

OS MARPAT 126:122303
AB Novel compns. of isoflavanoid derivs. useful for the treatment of male pattern baldness and alopecia areata, promoting the conversion of gray hair to the original pigment in hair follicles, and increasing the blood supply to the brain are disclosed. The invention also relates to methods for treatment of male pattern baldness and alopecia areata, gray hair, and brain circulatory deficiencies. Sodium methoxide 6.48 was added to 50 mL DMF and the mixt. was distd. to eliminate alc. then, resulting product was cooled to .ltoreq.20.degree.. Dimethylamino-methoxy sulfuric acid Me ester (prepn. given) was added dropwise to the cooled product and the

mixt. was allowed to react for 5 h. The reaction mixt. was distd. to remove dimethyllformaide from the mixt. followed by addn. of water to obtain daidzein (I). A tablet contained I 100, lactose 50, starch 23, microcryst. cellulose 2, dicalcium phosphate 30 mg, surfactants trace, and magnesium trace. The efficacy of tablets (2 tablet 3 times/day) in treatment of hypertensive male bald subject is reported.

ST hair growth promoter isoflavanoid deriv; pharmaceutical tablet daidzein male baldness

IT Alopecia
(areata; hair growth promoting compns. contg. isoflavanoid derivs.)

IT Brain, disease
(cerebrovascular; hair growth promoting compns. contg. isoflavanoid derivs.)

IT Hair preparations
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(growth stimulants; hair growth promoting compns. contg. isoflavanoid derivs.)

IT Isoflavonoids
RL: RCT (Reactant); RACT (Reactant or reagent)
(hair growth promoting compns. contg. isoflavanoid derivs.)

IT Alopecia
(male pattern; hair growth promoting compns. contg. isoflavanoid derivs.)

IT Drug delivery systems
(ointments, creams; hair growth promoting compns. contg. isoflavanoid derivs.)

IT Drug delivery systems
(ointments; hair growth promoting compns. contg. isoflavanoid derivs.)

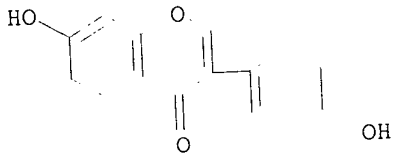
IT Drug delivery systems
(tablets; hair growth promoting compns. contg. isoflavanoid derivs.)

IT 485-72-3P 486-63-5P **486-66-8P**, Daidzein **19725-36-1P**
56401-04-8P **89019-85-2P** 139256-06-7P 142574-14-9P
146307-82-6P **148356-24-5P** **186246-60-6P** 186246-61-7P
186246-62-8P **186246-63-9P** **186246-64-0P** 186246-65-1P
186246-66-2P 186246-67-3P 186246-68-4P 186246-69-5P
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hair growth promoting compns. contg. isoflavanoid derivs.)

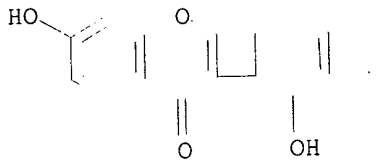
IT 68-12-2, reactions 75-93-4, Methyl sulfate 186246-70-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(hair growth promoting compns. contg. isoflavanoid derivs.)

IT **486-66-8P**, Daidzein **19725-36-1P** **89019-85-2P**
148356-24-5P **186246-60-6P** **186246-63-9P**
186246-64-0P
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hair growth promoting compns. contg. isoflavanoid derivs.)

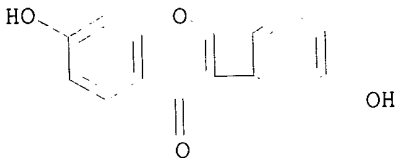
RN 486-66-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



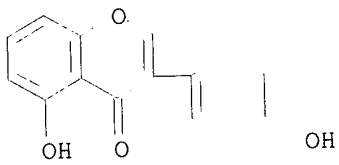
RN 19725-36-1 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)



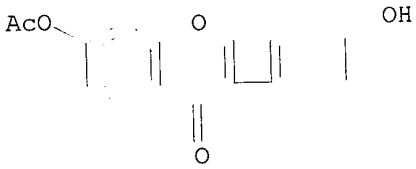
RN 89019-85-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)



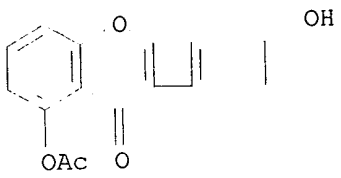
RN 148356-24-5 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



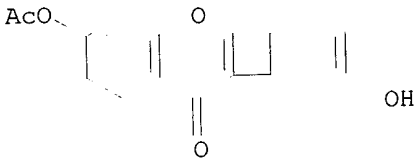
RN 186246-60-6 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-(acetyloxy)-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 186246-63-9 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5-(acetyloxy)-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 186246-64-0 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-(acetyloxy)-3-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)



L50 ANSWER 6 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1993:575863 HCAPLUS
DN 119:175863
TI Isoflavones from soybean exudates inducing nodulation of Bradyrhizobium japonicum.
IN Kosslak, Renee; Bookland, Roger; Appelbaum, Edward R.
PA Lubrizol Genetics, Inc., USA
SO U.S., 15 pp. Cont. of U.S. Ser. No. 35,516, abandoned.
CODEN: USXXAM
DT **Patent**
LA English
IC ICM A01N063-00
ICS A01N043-00; C12R001-41; C12N001-00; C05F011-08; A01C001-06
NCL 424-93A
CC 5-2 (Agrochemical Bioregulators)
Section cross-reference(s): 3, 10, 11

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5229113	A	19930720	US 1989-393081	19890809 <--
PRAI	US 1987-35516		19870407 <--		

AB The isoflavones daidzein and genistein of soybean exudates are identified as inducers of nodulation of Bradyrhizobium. These compds. can be used for regulated induction of nodulation or for expression of heterologous genes under expression of the nodulation promoter. Several other flavonoids are also identified as inducers, with daidzein and genistein effective at .ltoreq.1.mu.M. The compds. were identified by chromatog. fractionation of exudates and assaying fractions for induction of expression of a reporter gene from the nod promoter.
ST Bradyrhizobium nodulation inducer flavone soybean
IT Bradyrhizobium japonicum
(nodulation by, induction of, flavones from soybean exudates for)
IT Flavonoids
RL: BIOL (Biological study)
(nodulation inducers, by Bradyrhizobium japonicum, induction of nodABC genes by)
IT Soybean
(nodulation inoculum for, Bradyrhizobium japonicum and nodulation-inducing flavones in)
IT Flavonoids

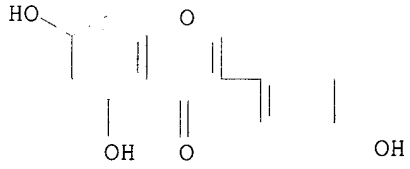
RL: BIOL (Biological study)
(iso-, oxo, nodulation inducers, by Bradyrhizobium japonicum, induction of nodABC genes by)

IT Operon
(nodABCIJ, induction of, flavones for)

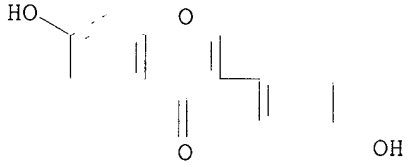
IT **446-72-0**, Genistein 479-13-0, Coumestrol 485-72-3, Formononetin **486-66-8**, Daidzein 491-80-5, Biochanin A 520-18-3, Kaempferol 520-36-5, Apigenin 2196-14-7 **4044-00-2**, 5,7-Dihydroxyisoflavone **13057-72-2**, 7-Hydroxyisoflavone
RL: BIOL (Biological study)
(nodulation inducer, by Bradyrhizobium japonicum, induction of nodABC genes by)

IT **446-72-0**, Genistein **486-66-8**, Daidzein **4044-00-2**, 5,7-Dihydroxyisoflavone **13057-72-2**, 7-Hydroxyisoflavone
RL: BIOL (Biological study)
(nodulation inducer, by Bradyrhizobium japonicum, induction of nodABC genes by)

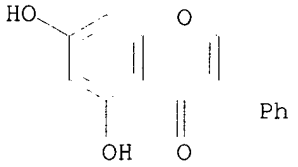
RN 446-72-0 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



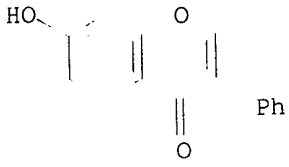
RN 486-66-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 4044-00-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-phenyl- (9CI) (CA INDEX NAME)



RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



L50 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1993:535006 HCAPLUS
DN 119:135006
TI Carbon dioxide detector
IN Mills, Andrew; Chang, Qing
PA Johnson and Johnson Professional Products Ltd., UK
SO PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM G01N031-22
CC 9-1 (Biochemical Methods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9314399	A1	19930722	WO 1993-GB49	19930111	<--
	W: JP, US					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	EP 620918	A1	19941026	EP 1993-901829	19930111	<--
	EP 620918	B1	19970730			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
	JP 07502817	T2	19950323	JP 1993-512258	19930111	<--
	JP 3178839	B2	20010625			
	AT 156269	E	19970815	AT 1993-901829	19930111	<--
	ES 2105211	T3	19971016	ES 1993-901829	19930111	<--
	US 5480611	A	19960102	US 1994-256468	19940928	<--
PRAI	GB 1992-431	A	19920109	<--		
	WO 1993-GB49	W	19930111	<--		

AB A CO2 detector comprises an indicating member and a CO2 sensing medium and is useful for medical uses, esp. trachea intubation. The indicating member comprises an intimate mixt. of a polymer vehicle (polyvinyl butyral, polyvinyl Me ether, etc.). The CO2 sensing medium comprises an anionic fluorimetric dye (1,3-dihydroxypyrene-6,8-disulfonate, fluorescein, etc.) and a lipophilic org. quaternary cation (benzyltrimethylammonium, trioctylmethylammonium, etc.). Thus, a film contg. 1-hydroxypyrene-3,6,8-trisulfonate, tetraoctylammonium, Et cellulose, and tris-Bu phosphate was coated on the surface of a gas impermeable tube. Exposure of the film to a high level of CO2 converted the deprotonated form of the dye into its protonated form, which can be monitored by measuring at 394nm.

ST carbon dioxide detector fluorescent film; dye fluorescent carbon dioxide detector

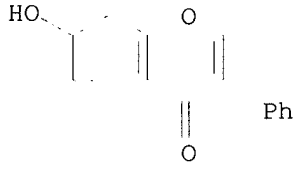
IT Polymers, uses
RL: USES (Uses)
(indicating membrane contg., in carbon dioxide detector)

IT Vinyl acetal polymers
RL: USES (Uses)
(butyrals, indicating membrane contg., in carbon dioxide detector)

IT Dyes
(fluorescent, anionic, sensing medium contg., in carbon dioxide detector for medical use)

IT Sensors
(gas, for carbon dioxide, for medical use)

IT 124-38-9, Carbon dioxide, analysis
RL: ANST (Analytical study)
(detector for)
IT 122-62-3 605-45-8, Diisopropyl phthalate 56-81-5, Glycerine, uses
70-55-3, p-Toluene sulphonamide 77-99-6, Trimethylolpropane 78-40-0,
Triethyl phosphate 78-51-3
RL: ANST (Analytical study)
(in indicating membrane manuf. for carbon dioxide detector)
IT 9002-89-5, Poly(vinyl alcohol) 9003-09-2, Poly(vinyl methyl ether)
9003-53-6, Polystyrene 9004-32-4, Carboxymethyl cellulose 9004-57-3,
Ethylcellulose 9004-64-2, Hydroxypropyl cellulose 9004-67-5,
Methylcellulose 9011-14-7, Poly(methyl methacrylate) 25322-68-3,
Polyethylene glycol 25322-69-4, Polypropylene glycol 126-73-8,
Tributyl phosphate, uses
RL: ANST (Analytical study)
(indicating membrane contg., in carbon dioxide detector)
IT 84-87-7, 1-Naphthol-4-sulfonic acid 90-33-5 93-01-6,
2-Naphthol-6-sulfonic acid 93-35-6, Umbelliferone 567-18-0,
1-Naphthol-2-sulfonic acid 583-17-5, 2-Hydroxycinnamic acid 779-27-1,
7-Hydroxycoumarin-3-carboxylic acid 1214-24-0, 3,6-DiHydroxyxanthone
2321-07-5, Fluorescein 3030-97-5, Salicylaldehyde semicarbazone
3722-51-8, 3-Hydroxyxanthone 6665-86-7, 7-Hydroxyflavone
13057-72-2, 7-Hydroxyisoflavone 15463-09-9, 7-Hydroxylepidine
20168-55-2, 3-Hydroxyacridone 27928-00-3 58851-99-3 85353-28-2
85644-14-0
RL: ANST (Analytical study)
(sensing medium contg. fluorescent, in carbon dioxide detector)
IT 4731-53-7 10549-76-5, Tetrabutylammonium 14800-24-9,
Benzyltrimethylammonium 18198-39-5, Tetraphenylphosphonium 19524-73-3,
Tetraoctylammonium 20256-54-6, Tetrahexylammonium 22061-11-6
45306-06-7 66997-36-2
RL: ANST (Analytical study)
(sensing medium contg., in carbon dioxide detector)
IT **13057-72-2**, 7-Hydroxyisoflavone
RL: ANST (Analytical study)
(sensing medium contg. fluorescent, in carbon dioxide detector)
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



L50 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1993:185706 HCAPLUS
DN 118:185706
TI Method using daidzin or daidzin analog for the inhibition of aldehyde dehydrogenase I (ALDH-I), and use in the treatment of alcohol dependence or alcohol abuse
IN Vallee, Bert L.; Keung, Wing Ming
PA Endowment for Research in Human Biology, Inc., USA
SO PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM A61K031-35
ICS C07D311-36; A61K031-70

CC 4-7 (Toxicology)
Section cross-reference(s): 7, 11, 27, 63

FAN.CNT 2

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE	
PI	WO 9300896	A1	19930121		WO 1992-US5598	19920630	<--
	W: AU, BR, CA, FI, HU, JP, KR, NO, RO, RU, US						
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE						
	US 5204369	A	19930420		US 1991-723404	19910701	<--
	AU 9223085	A1	19930211		AU 1992-23085	19920630	<--
	EP 592583	A1	19940420		EP 1992-915216	19920630	<--
	EP 592583	B1	20010131				
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE						
	AT 198983	E	20010215		AT 1992-915216	19920630	<--
	JP 3170281	B2	20010528		JP 1993-502339	19920630	<--
	NO 9304911	A	19940228		NO 1993-4911	19931230	<--
	US 5624910	A	19970429		US 1994-170272	19940524	<--
	US 6255497	B1	20010703		US 1998-190360	19981112	<--
PRAI	US 1991-723404	A2	19910701	<--			
	WO 1992-US5598	A	19920630	<--			
	US 1994-170272	A1	19940524	<--			
	US 1997-840360	A3	19970429	<--			

OS MARPAT 118:185706

AB ALDH-I is inhibited by daidzin (I) or an analog thereof, optionally with factor(s) increasing the bioavailability of the I or I analog. Such inhibitory compds. or compns. are useful as pharmaceutical compns in methods for the treatment of alc. dependence (i.e. alcoholism) or alc. abuse, for alc. sensitization, for extinguishing an alc.-drinking response, for suppressing an urge for alc., for inducing alc. intolerance, for preventing alcoholism in an individual with or without a susceptibility or predisposition to alc. or alc. abuse, and for limiting alc. consumption in an individual, whether or not the individual is genetically predisposed. I was isolated from the crude drug Radix Puerariae (prepd. as the dried root of Pueraria lobata). Kinetic consts. for the inhibition by I of ALDH isoenzymes I and II were 40 and 20,000 nM, resp. Prepn. and inhibitory activity of ether derivs., e.g. daidzein 7-(.omega.-carboxydecyl) ether, is also presented. I, at doses of 5, 10, and 30 mg/day suppressed alc. intake by hamsters by 20, 50, and 80%, resp. I in a crude Radix Puerariae methanolic ext. was 5-10 times more potent than pure I.

ST daidzin aldehyde dehydrogenase inhibitor; alcoholism treatment daidzin

IT Drug bioavailability
Solubility
(daidzen compn. including factor increasing)

IT Molecular structure-biological activity relationship
(of aldehyde dehydrogenase I isoenzymes inhibition by daidzin and related compds.)

IT Kinetics, enzymic
(of aldehyde dehydrogenase I isoenzymes inhibition by daidzin and related compds., inhibition consts. for)

IT Drug dependence
(alcoholism, treatment of, daidzin for, aldehyde dehydrogenase I inhibition in relation to)

IT Kudzu
(P. lobata, daidzin from Radix Puerariae of, aldehyde dehydrogenase I inhibition by, alcoholism treatment in relation to)

IT Kudzu
(P. lobata, roots, daidzin from, aldehyde dehydrogenase I inhibition by, alcoholism treatment in relation to)

IT **486-66-8D**, analogs 552-66-9, Daidzin
RL: BIOL (Biological study)
(aldehyde dehydrogenase I inhibition with, alcoholism treatment in relation to)

IT 480-44-4, Acacetin 486-62-4, Ononin 525-82-6, Flavone 529-59-9, Genistin 552-59-0, Prunetin 2555-30-8, 7-Hydroxy-4-phenylcoumarin **13057-72-2** 36136-92-2 88407-29-8 146699-00-5 146699-01-6
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(aldehyde dehydrogenase inhibitory activity of)

IT 9003-39-8, Polyvinylpyrrolidone 11024-24-1, Digitonin 25322-68-3, PEG
RL: BIOL (Biological study)
(daidzin soly. with)

IT 7585-39-9, .beta.-Cyclodextrin
RL: BIOL (Biological study)
(daidzin soly. with PEG and)

IT 64-17-5, Ethanol, biological studies
RL: BIOL (Biological study)
(intolerance to, induction of, daidzin for, aldehyde dehydrogenase I inhibition in relation to)

IT 9028-86-8, Aldehyde dehydrogenase
RL: BIOL (Biological study)
(isoenzyme I, inhibition of, by daidzin or daidzin analog, alcoholism treatment in relation to)

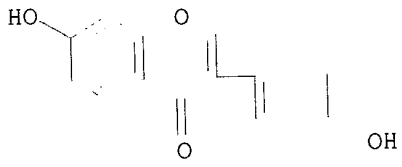
IT 146698-96-6P 146698-97-7P 146698-98-8P 146698-99-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and aldehyde dehydrogenase I inhibitory activity of)

IT 147158-74-5P 147158-75-6P 147158-76-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 75-03-6, Ethyl iodide 2834-05-1, .omega.-Bromoundecanoic acid 4224-70-8, .omega.-Bromohexanoic acid 30515-28-7, .omega.-Bromoheptanoic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with daidzin)

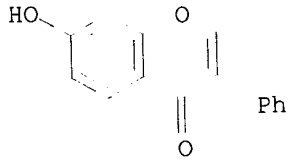
IT **486-66-8D**, analogs
RL: BIOL (Biological study)
(aldehyde dehydrogenase I inhibition with, alcoholism treatment in relation to)

RN 486-66-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



IT **13057-72-2**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(aldehyde dehydrogenase inhibitory activity of)

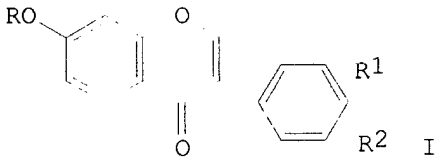
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



L50 ANSWER 9 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1992:591584 HCAPLUS
DN 117:191584
TI An improved process for the preparation of substituted isoflavone derivatives
IN Kallay, Tamas; Lanyi, Gyorgy; Ledniczky, Laszlo; Imrei, Lajos; Hoffmann, Gyorgy; Sziladi, Maria; Somfai, Eva; Montay, Tibor
PA Chinoin Gyogyszer es Vegyeszeti Termekek Gyara Rt., Hung.
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM C07D311-36
ICA A61K031-35
CC 26-4 (Biomolecules and Their Synthetic Analogs)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9115483	A1	19911017	WO 1990-HU23	19900406 <--
	W: AU, CA, FI, JP, KR, NO, SU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
	CA 2058619	AA	19911007	CA 1990-2058619	19900406 <--
	AU 9054274	A1	19911030	AU 1990-54274	19900406 <--
	AU 631860	B2	19921210		
	EP 478558	A1	19920408	EP 1990-906260	19900406 <--
	EP 478558	B1	19940202		
	R: AT, BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
	JP 04507085	T2	19921210	JP 1990-506037	19900406 <--
	JP 08009610	B4	19960131		
	AT 101143	E	19940215	AT 1990-906260	19900406 <--
	NO 9104786	A	19911205	NO 1991-4786	19911205 <--
	US 5247102	A	19930921	US 1991-778927	19911205 <--
	RU 2036918	C1	19950609	RU 1991-5010742	19911205 <--
	LT 3463	B	19951025	LT 1993-779	19930713 <--
PRAI	EP 1990-906260		19900406 <--		
	WO 1990-HU23		19900406 <--		

OS CASREACT 117:191584; MARPAT 117:191584
GI



I

AB Isoflavones I (R = H, CHMe2; R1, R2 = H, OMe, OEt) were prepd. by cyclizing 2,4-(HO)2C6H3COCH2C6H3R1R2 with HC(OEt)3 in the presence of base and, optionally alkylating I(R = H). Thus, 2,4-(HO)2C6H3COCH2Ph was treated with HC(OEt)3 and morpholine in HOCHMe2 to give 90.6% I (R-R2 = H) contg. 0.2-0.4% I (R = Et, R1, R2 = H).
ST hydroxyphenylacetophenone cyclization orthoformate; hydroxyisoflavone; isoflavone hydroxy
IT Cyclocondensation reaction
(of dihydroxyphenyl benzyl ketones with orthoformate, isoflavones by)
IT 122-51-0, Triethylorthoformate
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with dihydroxyphenyl benzyl ketones)

IT 3669-41-8 24126-98-5 138948-69-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with orthoformate)

IT **138948-68-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and alkylation of)

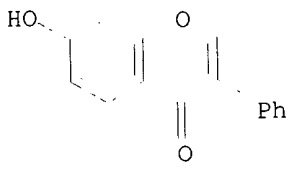
IT **13057-72-2P**, 7-Hydroxyisoflavone 24160-14-3P 35212-22-7P, 7-Isopropoxyisoflavone 138948-70-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT **138948-68-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and alkylation of)

RN 138948-68-2 HCAPLUS
CN Carbonic acid, monopotassium salt, compd. with 7-hydroxy-3-phenyl-4H-1-benzopyran-4-one potassium salt (1:1) (9CI) (CA INDEX NAME)

CM 1

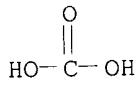
CRN 79130-53-3
CMF C15 H10 O3 . K



● K

CM 2

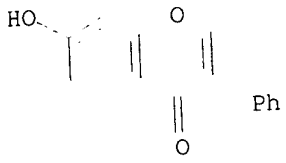
CRN 298-14-6
CMF C H2 O3 . K



● K

IT **13057-72-2P**, 7-Hydroxyisoflavone
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



L50 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1988:549354 HCAPLUS
DN 109:149354
TI Preparation and formulation of 3-aryl-3,4-dihydro-2H-1-benzopyrans useful in treatment of vascular diseases
IN Albert, Alban Imre; Zilliken, Friedrich W.
PA Zyma S. A., Switz.
SO Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DT **Patent**
LA English
IC ICM C07D311-58
ICS C07D493-04; C07D311-64; A61K031-35; A61K031-36
CC 27-14 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 267155	A2	19880511	EP 1987-810620	19871029 <--
	EP 267155	A3	19880720		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	NO 8704489	A	19880505	NO 1987-4489	19871028 <--
	FI 8704804	A	19880505	FI 1987-4804	19871102 <--
	DD 275048	A5	19900110	DD 1987-308578	19871102 <--
	DK 8705756	A	19880505	DK 1987-5756	19871103 <--
	ZA 8708245	A	19880629	ZA 1987-8245	19871103 <--
	HU 48611	A2	19890628	HU 1987-4930	19871103 <--
	AU 8780655	A1	19880505	AU 1987-80655	19871104 <--
	AU 606087	B2	19910131		
	JP 63130589	A2	19880602	JP 1987-277528	19871104 <--
	US 4814346	A	19890321	US 1987-116737	19871104 <--
PRAI	GB 1986-26344		19861104 <--		

OS MARPAT 109:149354
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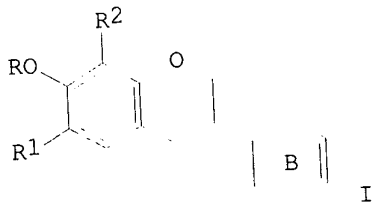


AB Title compds. I [R = H, (un)substituted alkyl; one of R1 and R2 = HO, alkoxy, alkanoyloxy, alkyl and the other is H, or ORR1 = (un)substituted OCH2O; R2 = H, or ORR2 = (un)substituted OCH2O; B is (un)substituted by alkyl, phenylalkyl, alkanoyloxy, halo, amino, etc.] and their salts, useful for treatment of vascular diseases (no data) were prepd. 6,7-Dihydroxy-3-(3,4-dimethoxyphenyl)-4H-1-benzopyran-4-one in dioxane and

EtOH is hydrogenated for 8 days over Pd/C to give I [R, R2 = H, R1 = HO; B = 3,4-(MeO)2].

ST aryldihydrobenzopyran prepn vascular disease treatment; benzopyran aryldihydro prepn vascular disease

IT Blood vessel, disease or disorder
(treatment of, aryldihydrobenzopyrans)

IT Blood vessel, disease or disorder
(Raynaud's phenomenon, treatment of, aryldihydrobenzopyrans for)

IT 93-17-4, (3,4-Dimethoxyphenyl)acetonitrile
RL: RCT (Reactant); RACT (Reactant or reagent)
(Friedel-Craft acylation of phenols by)

IT 140-53-4, (4-Chlorophenyl)acetonitrile 459-22-3, (4-Fluorophenyl)acetonitrile 501-00-8, (3-Fluorophenyl)acetonitrile 555-21-5, (4-Nitrophenyl)acetonitrile 622-75-3, 1,4-Benzenediacetonitrile 1529-41-5, (3-Chlorophenyl)acetonitrile 2338-76-3, (3-Trifluoromethylphenyl)acetonitrile 2947-60-6, (3-Methylphenyl)acetonitrile 2947-61-7, 4-Methylphenylacetonitrile 4395-87-3, (4-Isopropylphenyl)acetonitrile 5689-33-8 13288-86-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(Friedel-Craft acylation with phenols)

IT 87-66-1, Pyrogallol 136-77-6 533-73-3, 1,2,4-Trihydroxybenzene 608-25-3, 2,6-Dihydroxytoluene
RL: RCT (Reactant); RACT (Reactant or reagent)
(Friedel-Crafts acylation with acetonitriles)

IT 93434-89-0 116743-80-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of)

IT 3132-64-7, Epibromohydrin
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with hydroxybenzopyranone deriv.)

IT 94105-89-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification by, of acetic anhydride)

IT 76397-87-0 97148-44-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification with, of acetic anhydride)

IT 3162-40-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification of, with Et bromobutyrate)

IT 533-68-6, Ethyl 2-bromobutyrate
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification of, with hydroxyphenylbenzopyranone deriv.)

IT 2051-90-3, Dichlorodiphenylmethane
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification with, of dihydroxybenzopyran deriv.)

IT 2746-87-4 3162-32-1 36044-54-9 37816-19-6 74693-73-5 **75187-63-2** 97284-26-9 97770-37-1 116703-48-1 116718-74-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of)

IT 116718-40-2P 116718-41-3P 116718-42-4P 116718-43-5P 116718-45-7P 116718-46-8P 116718-47-9P 116718-76-4P 116718-82-2P 116718-85-5P 116718-90-2P 116718-93-5P 116718-96-8P 116718-99-1P 116719-02-9P 116719-05-2P 116719-12-1P 116719-15-4P 116719-18-7P 116719-21-2P 116719-24-5P 116719-27-8P 116719-31-4P 116719-36-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and cyclization of)

IT 116718-48-0P 116718-49-1P 116718-50-4P 116718-51-5P 116718-53-7P 116718-55-9P 116718-57-1P 116718-77-5P 116718-80-0P 116718-83-3P 116718-88-8P 116718-91-3P 116718-94-6P 116718-97-9P 116719-00-7P 116719-03-0P 116719-06-3P 116719-08-5P 116719-10-9P 116719-13-2P 116719-16-5P 116719-19-8P 116719-22-3P 116719-25-6P 116719-28-9P 116719-32-5P 116719-34-7P 116719-40-5P 116719-41-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrogenation of)

IT 116719-30-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)

IT 116718-52-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reactions of)

IT 116718-54-8P 116718-56-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as intermediate for benzopyrans for treatment of vascular diseases)

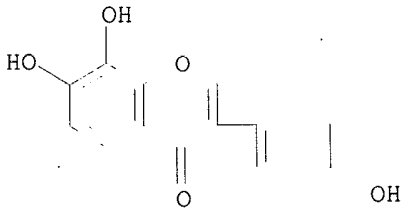
IT 116719-37-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for treatment of muscular disease)

IT 116718-44-6P 116718-58-2P 116718-59-3P 116718-60-6P 116718-61-7P
116718-62-8P 116718-63-9P 116718-64-0P 116718-65-1P 116718-66-2P
116718-67-3P 116718-68-4P 116718-69-5P 116718-70-8P 116718-71-9P
116718-72-0P 116718-73-1P 116718-75-3P 116718-78-6P 116718-79-7P
116718-81-1P 116718-84-4P 116718-86-6P 116718-87-7P 116718-89-9P
116718-92-4P 116718-95-7P 116718-98-0P 116719-01-8P 116719-04-1P
116719-07-4P 116719-09-6P 116719-11-0P 116719-14-3P 116719-17-6P
116719-20-1P 116719-23-4P 116719-26-7P 116719-29-0P 116719-33-6P
116719-35-8P 116719-38-1P 116719-39-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for treatment of vascular disease)

IT 98-09-9, Benzenesulfonyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfonylation by, of aminophenylbenzopyranone deriv.)

IT **75187-63-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of)

RN 75187-63-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7,8-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



L50 ANSWER 11 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1988:523795 HCAPLUS
DN 109:123795
TI Cloning and sequencing of Bradyrhizobium japonicum nodD gene, recombinant Bradyrhizobium or Rhizobium containing the gene, and flavones for inducing expression of the gene
IN Appelbaum, Edward R.; Hennecke, Hauke; Lamb, Joseph W.; Gottfert, Michael
PA Lubrizol Genetics, Inc., USA
SO PCT Int. Appl., 90 pp.
CODEN: PIXXD2
DT **Patent**
LA English

IC ICM C12N015-00
ICS C12N005-00; C07H015-12; A01H001-04
CC 3-4 (Biochemical Genetics)
Section cross-reference(s): 10, 11
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8707910	A1	19871230	WO 1987-US1421	19870617 <--
	W: AU, JP				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	US 5023180	A	19910611	US 1987-61848	19870611 <--
	AU 8776495	A1	19880112	AU 1987-76495	19870617 <--
	AU 607928	B2	19910321		
PRAI	US 1986-875297		19860617 <--		
	US 1987-61848		19870611 <--		
	WO 1987-US1421		19870617 <--		

AB The nodD genes of Bradyrhizobium japonicum are isolated and sequenced. These gene and recombinant DNA mols. contg. them are useful for engineering Rhizobium and Bradyrhizobium strains exhibiting enhanced competitiveness for nodulation, and for selective manipulation of nodulation host range of these strains. The nodD gene of B. japonicum USDA123 was isolated by genomic DNA screening using hybridization probes. Clone pEA5-1B contained two nodD open reading frames, designated nodD-1 and nodD-2. A HindIII fragment of the B. japonicum USDA123 contg. nodD, the promoter region of nodD and nodA, and the amino terminal end of nodC was joined to the lacZ gene through nodC to produce plasmids pEA2-21 and pEA4-10. The fusion gene was inducible by soybean exudates and compds. such as 7-hydroxyisoflavone in B. japonicum contg. either of the plasmids.

ST nodD gene Bradyrhizobium sequence cloning; hydroxyflavone nodD gene Bradyrhizobium induction

IT Legume
Soybean
(exudates, induction of nodulation in recombinant Rhizobium or Bradyrhizobium contg. nodD gene with)

IT Root nodule
(formation induction of, in recombinant Rhizobium or Bradyrhizobium contg. nodD gene)

IT Bradyrhizobium
Rhizobium
(nodulation gene promoter of, for nodD gene expression in recombinant Rhizobium or Bradyrhizobium)

IT Molecular cloning
(of nodD genes of Bradyrhizobium japonicum, in Escherichia coli)

IT Bradyrhizobium japonicum
(nodD gene of, cloning and sequencing of)

IT Plasmid and Episome
(pEA4-10, nodD-lacZ chimeric gene on, cloning and expression in Bradyrhizobium of)

IT Plasmid and Episome
(pRJ103, genes nodD1 and nodD2 of Bradyrhizobium japonicum on)

IT Gene and Genetic element
RL: BIOL (Biological study)
(promoter, of nodulation gene of Rhizobium, for nodD gene expression in recombinant Rhizobium or Bradyrhizobium)

IT Gene and Genetic element, microbial
RL: BIOL (Biological study)
(nodD, cloning and sequencing of, of Bradyrhizobium japonicum)

IT Gene and Genetic element, microbial
RL: BIOL (Biological study)
(nodD1, cloning and sequencing of, of Bradyrhizobium japonicum)

IT Gene and Genetic element, microbial
RL: BIOL (Biological study)
(nodD2, cloning and sequencing of, of Bradyrhizobium japonicum)

IT Operon
(nodABC, promoter of, of Bradyrhizobium japonicum, for nodD gene expression in recombinant Rhizobium or Bradyrhizobium)

IT 116412-15-8, Protein (Bradyrhizobium japonicum clone pEA5-1B gene nodD2 reduced)
RL: PRP (Properties)
(amino acid sequence and cloning and expression of gene for)

IT 116412-14-7, Protein (Bradyrhizobium japonicum clone pEA5-1B gene nodD1 reduced)
RL: PRP (Properties)
(amino acid sequence and expression of gene for)

IT 116411-89-3, Deoxyribonucleic acid (Bradyrhizobium japonicum clone pEA5-1B gene nodD1) 116411-90-6, Deoxyribonucleic acid (Bradyrhizobium japonicum clone pEA5-1B gene nodD2)
RL: PRP (Properties)
(cloning and expression and nucleotide sequence of)

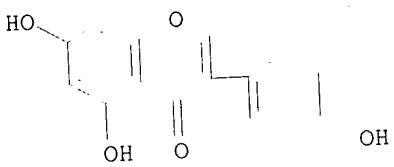
IT 116411-91-7, Deoxyribonucleic acid (Bradyrhizobium japonicum clone pEA5-1B gene nodD1 plus 5'- and 3'-flanking region fragment) 116411-92-8, Deoxyribonucleic acid (Bradyrhizobium japonicum clone pEA5-1B gene nodD2 plus 5'- and 3'-flanking region fragment)
RL: PRP (Properties); BIOL (Biological study)
(nucleotide sequence of)

IT **446-72-0**, Genistein **486-66-8**, Daidzein 2196-14-7
RL: PRP (Properties)
(nod gene induction with)

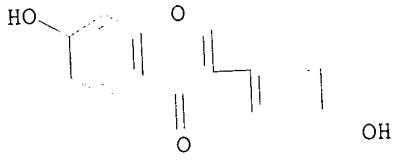
IT 479-13-0, Coumestrol 485-72-3, Formononetin 491-80-5 520-18-3, Kaempferol 520-36-5, Apigenin 552-59-0, Prunetin **4044-00-2**, 5,7-Dihydroxyisoflavone **13057-72-2**, 7-Hydroxyisoflavone
RL: PRP (Properties)
(nodD gene induction with, in recombinant Bradyrhizobium or Rhizobium)

IT **446-72-0**, Genistein **486-66-8**, Daidzein
RL: PRP (Properties)
(nod gene induction with)

RN 446-72-0 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

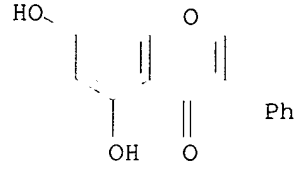


RN 486-66-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

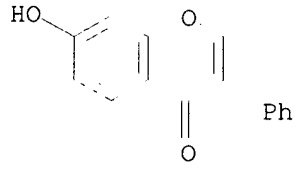


IT **4044-00-2**, 5,7-Dihydroxyisoflavone **13057-72-2**, 7-Hydroxyisoflavone
RL: PRP (Properties)
(nodD gene induction with, in recombinant Bradyrhizobium or Rhizobium)

RN 4044-00-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-phenyl- (9CI) (CA INDEX NAME)



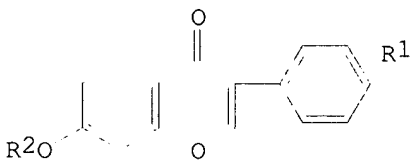
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



L50 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1986:5774 HCAPLUS
DN 104:5774
TI Benzopyran-4-one derivatives
IN Yamazaki, Iwao; Sawa, Yoichi
PA Takeda Chemical Industries, Ltd. , Japan
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT **Patent**
LA English
IC ICM C07D311-36
ICS A61K031-35
CC 27-14 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1, 63
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 146922	A2	19850703	EP 1984-115840	19841219 <--
	EP 146922	A3	19860402		
	EP 146922	B1	19880907		
	R: BE, CH, DE, FR, GB, IT, LI, NL, SE				
	JP 60132976	A2	19850716	JP 1983-242780	19831221 <--
	HU 37138	O	19851128	HU 1984-4748	19841220 <--
	US 4644012	A	19870217	US 1984-684144	19841220 <--
PRAI	JP 1983-242780		19831221 <--		
	JP 1983-242779		19831221 <--		

GI



I

AB The title compds. I (R1 = H or OH; R2 = H or carboxyalkyl) prepd. by the reaction of I (R1 as above, R2 = H) with R3CHXCO2R4 (R3 = alkyl; R4 = H or alkyl; X = halo) in presence of an inert solvent and a deacidifying agent followed by hydrolysis of the ester obtained, are bone resorption inhibitors, and as such are useful in osteoporosis treatment. Thus, 7-hydroxy-3-phenyl-4H-1-benzopyran-4-one (I; R1 = R2 = H) was reacted with Et 2-bromopropionate in DMF in the presence of K2CO3 to give 7-[[1-(ethoxycarbonyl)ethyl]oxy]-3-phenyl-4H-1-benzopyran-4-one which was hydrolyzed to 7-[(1-carboxyethyl)oxy]-3-phenyl-4H-1-benzopyran-4-one (I; R1 = H, R2 = MeCHCO2H) (II). II demonstrated its effectiveness as bone resorption inhibitor in rat fetal long bone culture. A tablet formulation contained II 200, lactose 15, starch 45, Ca CM-cellulose 10, and Mg stearate 1 g, for 1000 uncoated tablets 8.5 mm diam.

ST phenylbenzopyranone prepn bone resorption inhibitor; carboxyalkylphenyl benzopyranone prepn pharmaceutical; osteoporosis treatment carboxyalkylphenylbenzopyranone prepn

IT Bone
(resorption of, inhibitors of, [(carboxyethyl)oxy]phenylbenzopyranones)

IT Osteoporosis
(treatment of, [(carboxyethyl)oxy]phenylbenzopyranones for)

IT 99007-87-1P 99007-90-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and bone resorption-inhibiting activity of)

IT 38594-18-2P 99007-84-8P 99007-85-9P 99007-86-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)

IT 99007-88-2P 99007-89-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as bone resorption inhibitor)

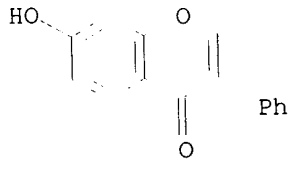
IT **13057-72-2 19725-36-1 89019-85-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Et bromopropionate)

IT **486-66-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with ethylbromopropionate)

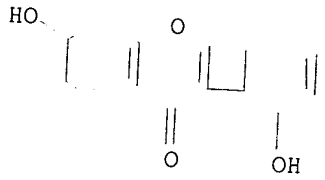
IT 535-11-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxyphenylbenzopyranones)

IT **13057-72-2 19725-36-1 89019-85-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Et bromopropionate)

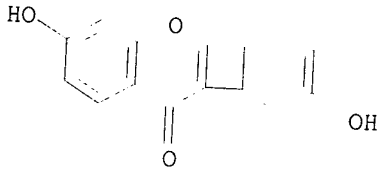
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



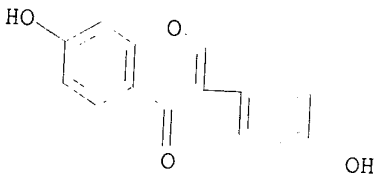
RN 19725-36-1 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 89019-85-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(3-hydroxyphenyl)- (9CI) (CA INDEX NAME)



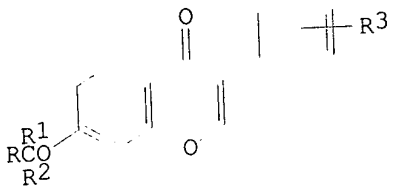
IT **486-66-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with ethylbromopropionate)
RN 486-66-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



L50 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1985:583568 HCAPLUS
DN 103:183568
TI Use of 3-phenyl-4H-1-benzopyran-4-one derivatives for inhibiting and treating osteoporosis
IN Tsuda, Masao; Sawa, Yoichi; Yamazaki, Iwao
PA Takeda Chemical Industries, Ltd. , Japan
SO Ger. Offen., 17 pp.
CODEN: GWXXBX
DT **Patent**
LA German
IC ICM A61K031-35
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 1, 27
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3446246	A1	19850711	DE 1984-3446246	19841219 <--
	JP 60132917	A2	19850716	JP 1983-242779	19831221 <--
	EP 146921	A2	19850703	EP 1984-115839	19841219 <--
	EP 146921	A3	19860402		
	R: BE, CH, DE, FR, GB, LI, NL, SE				
	US 4644012	A	19870217	US 1984-684144	19841220 <--
PRAI	JP 1983-242779		19831221 <--		

JP 1983-242780 19831221 <--
OS CASREACT 103:183568
GI



I

AB I (R = CO2H, group convertible to CO2H; R1, R2 = H, alkyl; R3 = H, OH) inhibit bone resorption. Pharmaceuticals contg. I are effective in the prevention and treatment of osteoporosis caused by decreased estrogen secretion after menopause in women. I suppressed the bone resorption by .apprx.5%. Acute toxicity studies with mice and rats showed no death incidence and toxic symptoms. Thus, tablets were prepd., each contg. 200 mg I (R = CO2H, R1 = Me, R2 = R3 = H)(II) [99007-90-6]. II was prepd. by hydrolysis of the Et ester [99007-84-8] which was prepd. from 7-hydroxy-3-phenyl-4H-1-benzopyran-4-one [**13057-72-2**] and Et 2-bromopropionate [535-11-5].

ST phenylbenzopyranone drug osteoporosis

IT Osteoporosis
(treatment of, phenylbenzopyranone derivs. for)

IT 38594-18-2P 99007-84-8P 99007-85-9P 99007-86-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)

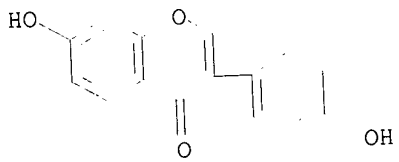
IT 99007-87-1P 99007-88-2P 99007-89-3P 99007-90-6P
RL: PREP (Preparation)
(prepn. of, for treatment of osteoporosis)

IT **486-66-8 13057-72-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Et bromopropionate)

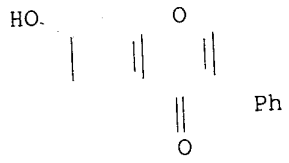
IT 535-11-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxyphenylbenzopyranones)

IT **486-66-8 13057-72-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Et bromopropionate)

RN 486-66-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)

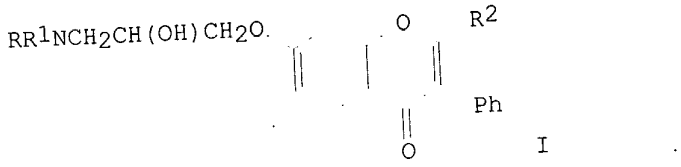


L50 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1985:437276 HCAPLUS
DN 103:37276
TI Isoflavones useful as anti-inflammatory agents
IN Wu, Edwin S.
PA Pennwalt Corp. , USA
SO U.S., 4 pp. Cont.-in part of U.S. Ser. No. 259,403, abandoned.
CODEN: USXXAM
DT **Patent**
LA English
IC ICM A61K031-35
ICS C07D311-36
NCL 514456000
CC 26-4 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 1

FAN.CNT 4

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE
PI	US 4501755	A	19850226		US 1982-441889	19821115 <--
	US 4495198	A	19850122		US 1982-441890	19821115 <--
	US 4668805	A	19870526		US 1986-885517	19860714 <--
	US 4668804	A	19870526		US 1986-885518	19860714 <--
PRAI	US 1981-259403		19810501	<--		
	US 1982-422929		19820924	<--		
	US 1981-259387		19810501	<--		
	US 1981-330122		19811214	<--		
	US 1982-441893		19821115	<--		

GI



AB Isoflavones I (R = H, alkyl, cycloalkyl; R1 = H, Me; R2 = H, alkyl, CF3, cycloalkyl, furyl) were prepd. Thus 7-hydroxy-3-phenylchromone was treated with epichlorohydrin, followed by aminolysis with H2NCHMe2 to give I (R = CHMe2, R1 = R2 = H) which at 50 mg/kg orally gave 45% inhibition in the rat paw edema test.

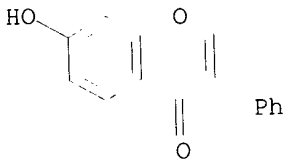
ST phenylchromonyloxypropanolamine prepn antiinflammatory; propanolamine phenylchromonyloxy; isoflavone aminohydroxypropoxy

IT Inflammation inhibitors and Antiarthritics
(isoflavonyloxypropanolamines)

IT 5452-37-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(aminolysis of epoxypropoxyisoflavone by)

IT 84858-21-9P 84858-46-8P 84858-48-0P 84858-64-0P 97124-31-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(prepn. and aminolysis of)
IT 84858-22-0P 84858-24-2P 84858-47-9P 84858-49-1P 84858-50-4P
97124-35-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. and antiinflammatory activity of)
IT 97124-60-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and quaternization of)
IT 84858-44-6P 84858-45-7P 97124-32-8P 97124-33-9P 97124-34-0P
97138-90-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 2859-88-3 **13057-72-2** 32131-70-7 84858-65-1 97124-30-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with epichlorohydrin)
IT 106-89-8, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxyisoflavone)
IT **13057-72-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with epichlorohydrin)
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



L50 ANSWER 15 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1983:107161 HCAPLUS
DN 98:107161
TI Antihypertensive agents
IN Wu, Edwin Shen Chou
PA Pennwalt Corp. , USA
SO Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW
DT **Patent**
LA English
IC C07D311-26; A61K031-35
CC 27-14 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1, 63

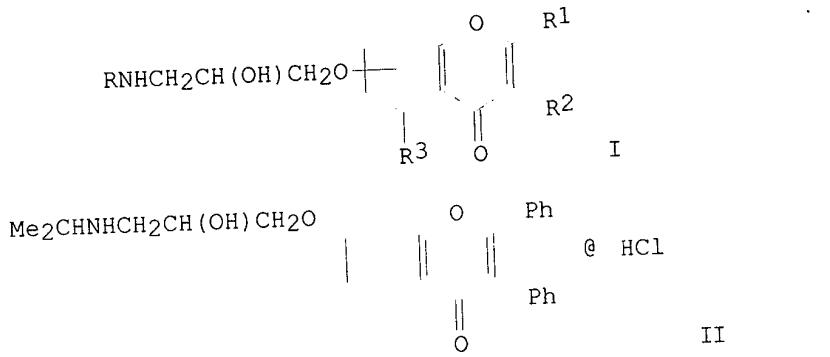
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 64165	A1	19821110	EP 1982-102950	19820406 <--
	EP 64165	B1	19870610		
	R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	CA 1188311	A1	19850604	CA 1982-396888	19820223 <--
	AU 8280952	A1	19821104	AU 1982-80952	19820226 <--
	AU 552925	B2	19860626		
	AT 27700	E	19870615	AT 1982-102950	19820406 <--
	JP 57185277	A2	19821115	JP 1982-68884	19820426 <--
	FI 8201514	A	19821102	FI 1982-1514	19820429 <--

	NO 8201446	A	19821102	NO 1982-1446	19820430 <--
	DK 8201946	A	19821102	DK 1982-1946	19820430 <--
	US 4668805	A	19870526	US 1986-885517	19860714 <--
	US 4668804	A	19870526	US 1986-885518	19860714 <--
PRAI	US 1981-259403		19810501 <--		
	US 1981-259387		19810501 <--		
	US 1981-330122		19811214 <--		
	EP 1982-102950		19820406 <--		
	US 1982-441893		19821115 <--		

OS CASREACT 98:107161

GI



AB Antihypertensive chromones I (R = H, alkyl, cycloalkyl; R1 = H, alkyl, F3C, Ph, o-ClC6H4, p-ClC6H4; R2 = H, Ph; R3 = H, HO) were prepd. Thus, 7-hydroxy-2,3-diphenylchromone was treated with epichlorohydrin to give 7-(2,3-epoxypropoxy)-2,3-diphenylchromone, which was treated with Me2CHNH2 to give the chromone II. II had antihypertensive activity at 8 mg/kg in the spontaneously hypertensive rat.

ST chromone aminohydroxypropoxy; antihypertensive aminohydroxypropoxychromone

IT Antihypertensives
((aminohydroxypropoxy)chromone)

IT 38186-01-5P 76323-05-2P 84858-22-0P 84858-23-1P 84858-25-3P
84858-27-5P 84858-28-6P 84858-30-0P 84858-31-1P 84858-32-2P
84858-34-4P 84858-36-6P 84858-38-8P 84858-39-9P 84858-41-3P
84858-43-5P 84858-44-6P 84858-45-7P 84858-47-9P 84858-50-4P
84858-52-6P 84858-55-9P 84858-57-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and antihypertensive activity of)

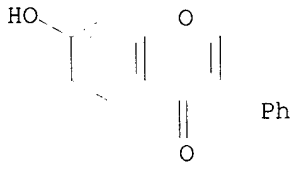
IT 37933-96-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of isopropylamine)

IT 84858-19-5P 84858-21-9P 84858-46-8P 84858-48-0P 84858-60-6P
84858-61-7P 84858-64-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction with isopropylamine)

IT 84858-17-3P 84858-40-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction with isopropylamines)

IT 84858-42-4P
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. and reactions with isopropylamine)
IT 84858-18-4P 84858-20-8P 84858-24-2P 84858-29-7P 84858-33-3P
84858-35-5P 84858-37-7P 84858-51-5P 84858-53-7P 84858-54-8P
84858-56-0P 84858-58-2P 84858-59-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 107-11-9 627-35-0 1003-03-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (epoxypropoxy)diphenylchromone)
IT 75-04-7, reactions 107-10-8, reactions 109-73-9, reactions 765-30-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (epoxypropoxy)flavone)
IT 75-31-0, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (epoxypropyl)chromones)
IT 2859-88-3 6665-83-4 6665-86-7 **13057-72-2** 18651-11-1
18651-15-5 22609-52-5 32131-70-7 84858-62-8 84858-63-9
84858-65-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with epichlorohydrin)
IT 106-89-8, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxychromones)
IT 84858-26-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with isopropylamine)
IT **13057-72-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with epichlorohydrin)
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



L50 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1981:550452 HCAPLUS
DN 95:150452
TI Basic ethers and pharmaceutical preparations containing them
IN Hausberg, Hans Heinrich; Pruecher, Helmut; Uhl, Juergen; Seyfried, Christoph; Minck, Klaus
PA Merck Patent G.m.b.H. , Fed. Rep. Ger.
SO Ger. Offen., 41 pp.
CODEN: GWXXBX
DT **Patent**
LA German
IC C07D311-36; C07D311-20; C07D311-22; C07D311-30
CC 27-17 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 26
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2950135	A1	19810619	DE 1979-2950135	19791213 <--
	EP 31885	A1	19810715	EP 1980-107005	19801113 <--
	EP 31885	B1	19840627		

R: AT, BE, CH, DE, FR, GB, IT, NL, SE

	AT 8141	E	19840715	AT 1980-107005	19801113 <--
	AU 8065216	A1	19810618	AU 1980-65216	19801210 <--
	AU 536811	B2	19840524		
	JP 56092882	A2	19810727	JP 1980-174761	19801212 <--
	JP 02038581	B4	19900831		
	ZA 8007820	A	19820127	ZA 1980-7820	19801212 <--
	ES 497694	A1	19821101	ES 1980-497694	19801212 <--
	CA 1154444	A1	19830927	CA 1980-366689	19801212 <--
	IL 61698	A1	19850929	IL 1980-61698	19801212 <--
	HU 25083	O	19830530	HU 1980-2975	19801213 <--
	HU 183265	B	19840428		
	US 4376123	A	19830308	US 1980-216454	19801215 <--
	US 4508732	A	19850402	US 1983-459928	19830121 <--
	US 4780478	A	19881025	US 1986-927559	19861106 <--
PRAI	DE 1979-2950135		19791213 <--		
	EP 1980-107005		19801113 <--		
	US 1980-216454		19801215 <--		
	US 1983-459928		19830121 <--		
	US 1985-700226		19850211 <--		

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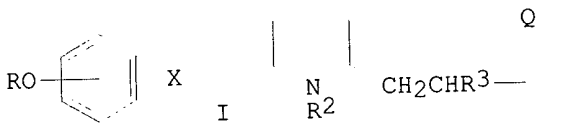

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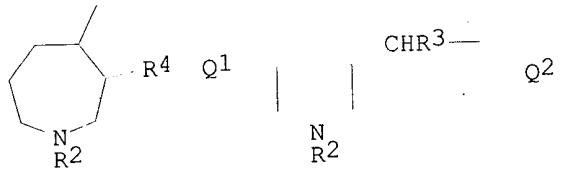
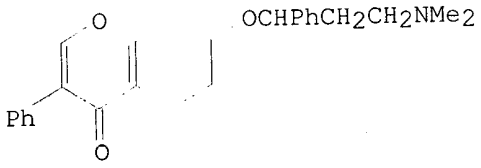




II

AB Basic ethers I (R = MeNR2CH2CH2CHR1, Q, Q1, Q2; R1 = cyclopropyl, R5; R2 = H, C1-4 alkyl, C2-4 alkenyl, C4-8 cycloalkylalkyl, PhCH2; R3 = H, R5; R4 = H, C1-4 alkyl; R5 = Ph, optionally substituted with F, Cl, C1-4 alkoxy or alkylthio, OCH2O, CF3; X = OCHR6CHR7CH2, OCHR6CHR7CO, OCR6:CR7CO, CH2CHR6CHR7CO; R6, R7 = H, C1-4 alkyl, C3-6 cycloalkyl, R5), useful as antidepressants (no data), were prepd. A soln. of 7-hydroxyisoflavone in ethanolic KOH was evapd. and the residue in DMF treated with PhCHClCH2CH2NMe2 in DMF at 150.degree. to give (aminopropoxy)isoflavone II.

ST amino ether antidepressant prepn; isoflavone aminopropoxy antidepressant prepn; aminopropoxyisoflavone antidepressant prepn

IT Antidepressants
(amino ethers)

IT **13057-72-2**
RL: PROC (Process)
(conversion of, to potassium salt)

IT 79130-67-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and debenzylation of)

IT **79130-53-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with aminochloropropane deriv.)

IT 79130-52-2P 79130-54-4P 79130-55-5P 79130-56-6P 79130-57-7P
79130-58-8P 79130-59-9P 79130-60-2P 79130-61-3P 79130-62-4P
79130-63-5P 79130-64-6P 79130-65-7P 79130-66-8P 79130-68-0P
79130-69-1P 79130-70-4P 79130-71-5P 79130-72-6P 79130-73-7P
79130-74-8P 79130-75-9P 79130-76-0P 79130-77-1P 79130-78-2P
79130-79-3P 79130-80-6P 79130-81-7P 79130-82-8P 79130-83-9P
79130-84-0P 79130-85-1P 79130-86-2P 79130-87-3P 79130-88-4P
79130-89-5P 79130-90-8P 79130-91-9P 79130-93-1P 79130-94-2P
79130-95-3P 79130-96-4P 79130-97-5P 79130-98-6P 79130-99-7P
79131-21-8P 79137-17-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 79131-00-3 79131-01-4 79131-02-5 79131-03-6 79131-04-7
79131-05-8 **79131-06-9** 79131-07-0 79131-08-1 79131-09-2
79131-10-5 79131-11-6 79131-12-7 79131-13-8 79131-14-9
79131-15-0 79131-16-1 79137-18-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminohalo compd.)

IT 79131-17-2 79131-18-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminopropyl chloride deriv.)

IT 79131-19-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroflavone sodium salt)

IT 79131-20-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxychroman sodium salt)

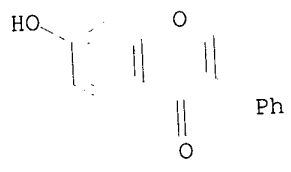
IT 106-95-6, reactions 5911-08-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(N-alkylation by, of (aminopropoxy)isoflavone deriv.)

IT 79130-92-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(N-methylation of)

IT 79130-51-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(O-alkylation by, of hydroxyisoflavone)

IT **13057-72-2**
RL: PROC (Process)
(conversion of, to potassium salt)

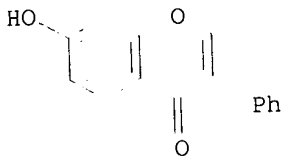
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



IT **79130-53-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with aminochloropropane deriv.)

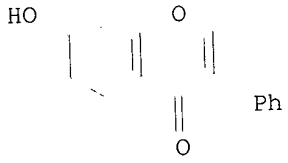
RN 79130-53-3 HCAPLUS

CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl-, potassium salt (9CI) (CA INDEX NAME)



● K

IT **79131-06-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminohalo compd.)
RN 79131-06-9 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl-, sodium salt (9CI) (CA INDEX NAME)



● Na

L50 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1980:6415 HCAPLUS
DN 92:6415
TI Animal feed containing anabolic isoflavones
IN Feuer, Laszlo; Nogradi, Mihaly; Gettsegen, Agnes; Vermes, Borbala; Strelisky, Janos; Wolfner, Andras; Farkas, Lorant; Antus, Sandor; Toth, Maria K.
PA Chinoin Gyogyszer es Vegyeszeti Termekek Gyara Rt., USA
SO U.S., 8 pp. Cont.-in-part of U.S. 3,833,730.
CODEN: USXXAM
DT **Patent**
LA English
IC A61K031-35
NCL 424283000
CC 27-15 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 18

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4166862	A	19790904	US 1974-470444	19740516 <--
	US 3833730	A	19740903	US 1971-146773	19710525 <--
	US 3907830	A	19750923	US 1973-371560	19730619 <--
	US 3864362	A	19750204	US 1973-374056	19730627 <--
	US 3949085	A	19760406	US 1974-497644	19740815 <--
PRAI	US 1971-146773		19710525 <--		
	HU 1970-CI996		19700527 <--		

US 1973-371560 19730619 <--

AB 7-Hydroxy-2-methylisoflavone and 7-hydroxyisoflavone ethers, which were prepd. from 2,4-dihydroxyphenyl benzyl ketone 4-ethers, showed their effectiveness as animal feed wt.-gaining additives. A mixt. of 2,4-HO(Me2CHO)C6H3COCH2Ph, HC(OEt)3, morpholine, and DMF was refluxed 8 h, with removal of the EtOH formed, to give 7-isopropoxyisoflavone.

ST alkoxyisoflavone prepn animal growth; benzoyloxyisoflavone prepn animal growth; isoflavone alkoxy prepn animal growth

IT Feed
(additives for, hydroxyisoflavone ethers as)

IT Animal growth substances
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydroxyisoflavone ethers)

IT 557-21-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of hydrogen cyanide from, with o-hydroxyphenyl benzyl ketones)

IT 72111-19-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with acetic anhydride, isoflavone deriv. from)

IT 18439-96-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with ethoxalyl chloride)

IT 50561-04-1 50775-75-2 50775-76-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with orthoformate ester)

IT 68-12-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with o-hydroxyphenyl benzyl ketone deriv.)

IT 109-94-4 122-51-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with o-hydroxyphenyl benzyl ketones)

IT 4755-77-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with o-hydroxyphenyl benzyl ketones, decarboxylation in)

IT 108-24-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with o-hydroxyphenyl benzyl ketones, isoflavones from)

IT 54585-89-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and dehydration of)

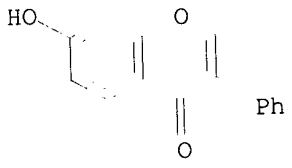
IT 35212-47-6P 35212-50-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and sapon. of)

IT 35212-22-7P 35212-28-3P 35212-32-9P 35212-33-0P 35212-35-2P
35212-42-1P 35212-52-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and use of, in animal feed)

IT 844-95-1P 23915-78-8P 35212-24-9P 35212-25-0P 35212-26-1P
35212-29-4P 35212-30-7P 35212-31-8P 35212-34-1P 35212-36-3P
35212-37-4P 35212-38-5P 35212-39-6P 35212-40-9P 35212-41-0P
35212-43-2P 35212-44-3P 35212-45-4P 35212-46-5P 35294-02-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 13057-73-3 54528-15-3 54528-35-7 54528-37-9 54528-40-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(use of, in animal feed)

IT 2859-88-3 **13057-72-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(O-alkylation of)
IT 111-25-1 3145-86-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(O-alkylation of hydroxyisoflavone by)
IT 100-44-7, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(O-alkylation of hydroxyisoflavone deriv. by)
IT 78-76-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(O-alkylation of hydroxyisoflavones by)
IT **13057-72-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(O-alkylation of)
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)

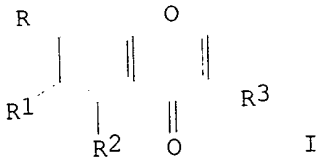


L50 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1977:405809 HCAPLUS
DN 87:5809
TI 4-Oxo-4H-benzopyran derivatives useful in fodder compositions
IN Bass, Robert John
PA Pfizer Corp., Panama
SO Ger. Offen., 20 pp.
CODEN: GWXXBX
DT **Patent**
LA German
IC C07D311-36
CC 27-14 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 18

FAN.CNT 1

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE
PI	DE 2640617	A1	19770317		DE 1976-2640617	19760909 <--
	GB 1495189	A	19771214		GB 1975-37553	19750912 <--
	BE 846109	A1	19770310		BE 1976-170560	19760910 <--
	DK 7604119	A	19770313		DK 1976-4119	19760910 <--
	NL 7610059	A	19770315		NL 1976-10059	19760910 <--
	JP 52057182	A2	19770511		JP 1976-108684	19760910 <--
	FR 2329269	A1	19770527		FR 1976-27339	19760910 <--
	US 4117149	A	19780926		US 1977-795652	19770510 <--
PRAI	GB 1975-37553		19750912	<--		
	US 1976-714086		19760813	<--		

GI



I

AB Benzopyranones (I; R = H, OH, Me, MeO; R1 = H, Cl, OH; R2 = H, OH, Me, MeO; R3 = e.g. Ph, 4-MeC6H4, 4-PhC6H4, PhSO2, PhCH2, 4-MeOC6H4O, cyclopentyl, 2-naphthyl), useful as animal growth substances, are prepd. by reaction of 2'-hydroxyacetophenones with DMF or MeCONMe2 in presence of MeSO2Cl and BF3.Et2O. Thus, reaction of 2,4,6-(HO)3C6H2COCH2C6H4Me-4 with DMF 2 h at 100.degree. gives 85% I (R = R2 = OH, R1 = H, R3 = 4-MeC6H4).

ST benzopyranone animal growth prepn

IT Animal growth substances
RL: RCT (Reactant); RACT (Reactant or reagent)
(benzopyranone derivs.)

IT 485-72-3P 491-80-5P **4044-00-2P 13057-72-2P**
15584-07-3P 15584-08-4P 15584-09-5P 59108-71-3P 59108-72-4P
59108-73-5P 59108-74-6P 59297-07-3P 62845-07-2P 62845-08-3P
62845-09-4P 62845-10-7P 62845-11-8P 62845-12-9P 62845-13-0P
62845-14-1P 62845-15-2P 62845-16-3P 62845-17-4P 62845-18-5P
62845-19-6P **62845-20-9P 62845-21-0P** 62845-22-1P
62845-23-2P 62881-64-5P 62881-65-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 124-63-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of hydroxyacetophenone derivs. with dimethylformamide or dimethylacetamide in presence of borontrifluoride etherate and)

IT 109-63-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of hydroxyacetophenone derivs. with dimethylformamide or dimethylacetamide in presence of methanesulfonyl chloride and)

IT 127-19-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with (fluorophenyl)trihydroxyacetophenone)

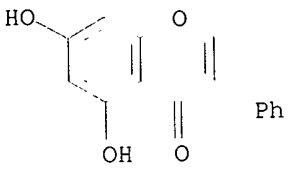
IT 15485-69-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with dimethylacetamide)

IT 59108-68-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with dimethylformamide)

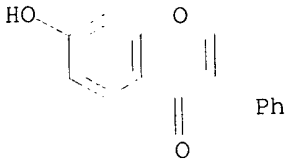
IT 68-12-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with trihydroxytolylacetophenone)

IT **4044-00-2P 13057-72-2P 62845-20-9P**
62845-21-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

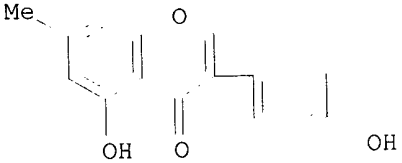
RN 4044-00-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-phenyl- (9CI) (CA INDEX NAME)



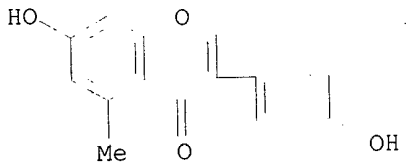
RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



RN 62845-20-9 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5-hydroxy-3-(4-hydroxyphenyl)-7-methyl- (9CI) (CA INDEX NAME)



RN 62845-21-0 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)-5-methyl- (9CI) (CA INDEX NAME)



L50 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2003 ACS
AN 1975:16704 HCAPLUS
DN 82:16704
TI Catabolic 7-alkoxyisoflavones as feed additives
IN Feuer, Laszlo; Nogradi, Mihaly; Gottsegen, Agnes; Vermes, Borbala; Streliszky, Janos; Wolfner, Andras; Farkas, Lorant; Antus, Sandor; Kovacs, Maria
PA Chinoin Gyogyszer es Vegyeszeti Termekek Gyara Rt.
SO Ger. Offen., 23 pp. Division of Ger. Offen. 2,125,245 (CA 76: 72407e).
CODEN: GWXXBX
DT **Patent**
LA German
IC A61K; A23K
CC 27-15 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 5

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2166458	A1	19741003	DE 1971-2166458	19710521 <--
	HU 162377	P	19730228	HU 1970-CI996	19700527 <--
	IL 36929	A1	19751015	IL 1971-36929	19710520 <--
	DE 2166085	A1	19730222	DE 1971-2166085	19710521 <--
	DE 2166085	B2	19790816		
	DE 2166085	C3	19800424		
	AT 311342	B	19731112	AT 1971-444	19710524 <--
	AT 311778	B	19731210	AT 1971-10281	19710524 <--
	AT 318613	B	19741111	AT 1972-6909	19710524 <--
	ES 391486	A1	19750301	ES 1971-391486	19710524 <--
	NL 7107128	A	19711130	NL 1971-7128	19710525 <--
	NL 170539	B	19820616		
	NL 170539	C	19821116		
	SE 389001	B	19761025	SE 1971-6745	19710525 <--
	SU 402176	D	19731012	SU 1971-1667729	19710526 <--
	GB 1360461	A	19740717	GB 1971-17293	19710526 <--
	GB 1360462	A	19740717	GB 1974-1583	19710526 <--
	CH 565786	A	19750829	CH 1974-6068	19710526 <--
	CH 567499	A	19751015	CH 1971-7704	19710526 <--
	SU 508205	D	19760325	SU 1971-1717079	19710526 <--
	PL 84997	P	19760430	PL 1971-160121	19710526 <--
	NO 134239	B	19760531	NO 1971-1986	19710526 <--
	DK 137362	B	19780227	DK 1971-2543	19710526 <--
	PL 98591	P	19780531	PL 1971-148411	19710526 <--
	PL 99030	P	19780630	PL 1971-175267	19710526 <--
	FR 2100692	A5	19720324	FR 1971-19257	19710527 <--
	CS 157871	B	19741015	CS 1971-3888	19710527 <--
	CS 165839	B	19751222	CS 1971-6392	19710527 <--
	CA 998057	A1	19761005	CA 1971-114041	19710527 <--
	RO 62749	P	19770915	RO 1971-70509	19710527 <--
	JP 54013391	B4	19790530	JP 1971-35940	19710527 <--
	FI 57406	B	19800430	FI 1971-1463	19710527 <--
	FI 57406	C	19800811		
	ES 398289	A1	19750416	ES 1971-398289	19711223 <--
	US 3907830	A	19750923	US 1973-371560	19730619 <--
	US 3864362	A	19750204	US 1973-374056	19730627 <--
	ES 425900	A1	19760616	ES 1974-425900	19740502 <--
	SE 7407325	A	19740604	SE 1974-7325	19740604 <--
	SE 412586	C	19800626		
	US 3949085	A	19760406	US 1974-497644	19740815 <--
	CA 986355	A2	19760330	CA 1975-217729	19750110 <--
	DK 7601789	A	19760421	DK 1976-1789	19760421 <--
	DK 143651	B	19810921		
	DK 143651	C	19820222		
	JP 53053657	A2	19780516	JP 1977-115994	19770927 <--
	JP 59003998	B4	19840127		
	FI 7901702	A	19790528	FI 1979-1702	19790528 <--
	FI 64045	B	19830630		
	FI 64045	C	19831010		
	JP 59062581	A2	19840410	JP 1982-216782	19821210 <--
	JP 59025791	B4	19840621		
PRAI	HU 1970-CI996		19700527 <--		
	US 1971-146773		19710525 <--		
	DK 1971-2543		19710526 <--		
	CA 1971-114041		19710527 <--		
	FI 1971-1463		19710527 <--		
	US 1973-371560		19730619 <--		

GI For diagram(s), see printed CA Issue.

AB About 40 isoflavones [I, Rn = H, (OMe)2-3,4, or NO2-4; R1 = H, Me, or CO2H; R2 = e.g. C1-11 alkyl, PhCH2, 4-ClC6H4CH2, EtO2CCH2, HOCH2CH2,

EtOCH2CH2, or 3-pyridylpropyl] were prepd. and (or) used as catabolic feed additives. Thus, 2,4-HO(Me2-CHO)C6H3COCH2Ph and HC(OEt)3 were refluxed in DMF contg. morpholine to give I (Rn = R1 = H, R2 = Me2CH). 2,4-HO-(BuO)C6H3COCH2Ph was refluxed in Ac2O contg. AcONa to give I (Rn = H, R1 = Me, R2 = Bu). I (Rn = R1 = R2 = H) and hexyl bromide were refluxed in Me2CO contg. K2CO3 and KI to give I (Rn = R1 = H, R2 = hexyl). 2,4-HO(MeO)C6H3CO-CH2Ph reacted with ClCOCO2Et in pyridine to give Et 2,3-dihydro-2-hydroxy-7-methoxyisoflavone-2-carboxylate, which on heating with concd. HCl gave I (Rn = H, R1 = CO2Et, R2 = Me) (II). II was hydrolyzed in aq. NaOH and Me2CO to give I (Rn = H, R1 = CO2H, R2 = Me).

ST feed additive catabolic isoflavone; alkoxyisoflavone feed additive; pyridylpropoxyisoflavone feed additive

IT Feed
(additives, catabolic alkoxyisoflavones as)

IT 13057-73-3 50776-06-2 54510-03-1 54528-15-3 54528-35-7
54528-36-8 54528-37-9 54528-38-0 54528-40-4 54585-86-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(catabolic feed additive)

IT 108-24-7 109-94-4 122-51-0 557-21-1 4755-77-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of benzyl phenyl ketones and)

IT 50561-04-1 50775-75-2 50775-76-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization with formic acid derivs.)

IT 35212-22-7P 35212-32-9P 35212-33-0P 35212-35-2P 35212-42-1P
35212-52-3P 54851-23-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and catabolic activity of)

IT 54585-89-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and dehydration of)

IT 35212-50-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)

IT 35212-24-9P 35212-25-0P 35212-26-1P 35212-28-3P 35212-29-4P
35212-30-7P 35212-31-8P 35212-34-1P 35212-36-3P 35212-37-4P
35212-38-5P 35212-39-6P 35212-40-9P 35212-41-0P 35212-43-2P
35212-44-3P 35212-51-2P 35294-02-1P 54528-34-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 2859-88-3 **13057-72-2** 54528-39-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with alkyl halides)

IT 10025-87-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dimethylformamide)

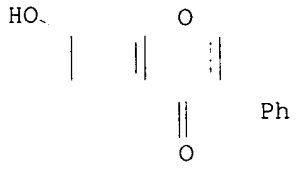
IT 18439-96-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with ethyl (chlorocarbonyl)formate)

IT 78-76-2 100-44-7 111-25-1 3145-86-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxyisoflavones)

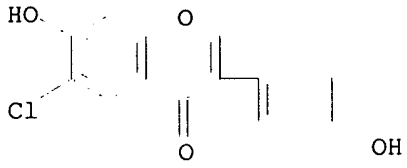
IT 68-12-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(with phosphoryl chloride)

IT **13057-72-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with alkyl halides)

RN 13057-72-2 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-phenyl- (9CI) (CA INDEX NAME)



AU Waehaelae, Kristina; Hase, Tapio; Adlercreutz, Herman
CS Dep. Chemistry, Univ. Helsinki, Helsinki, FIN-00014, Finland
SO Proceedings of the Society for Experimental Biology and Medicine (1995), 208(1), 27-32
CODEN: PSEBAA; ISSN: 0037-9727
PB Blackwell
DT Journal
LA English
CC 26-4 (Biomolecules and Their Synthetic Analogs)
AB The synthesis of the important diphenolic isoflavone type of phytoestrogens starting from the corresponding unprotected phenols and arylacetic acids is discussed. The aryl rings may carry addnl. alkyl, methoxy, and/or halogeno groups. Intermediate polyhydroxydeoxybenzoins can also be isolated in good yield. Isotopically labeled isoflavone phytoestrogens were prepd. by H/D exchange in the complete mol. By this method the deuterated products are available in an isotopic purity of .gtoreq.90%.
ST isoflavone; arylacetate phenol acylation; deuteration daidzein genistein
IT Flavonoids
RL: SPN (Synthetic preparation); PREP (Preparation)
(iso-, oxo, prepn. and labeling of isoflavones from phenols and arylacetic acids)
IT 104-01-8, 4-Methoxyphenylacetic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and labeling of isoflavones from phenols and arylacetic acids)
IT 104411-13-4P 136466-47-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and labeling of isoflavones from phenols and arylacetic acids)
IT 87-66-1, 1,2,3-Benzenetriol 93-25-4, 2-Methoxyphenylacetic acid 95-88-5, 4-Chloro-1,3-benzenediol 103-82-2, Phenylacetic acid, reactions 106-44-5, 4-Methylphenol, reactions 108-46-3, 1,3-Benzenediol, reactions 108-73-6, 1,3,5-Benzenetriol 108-95-2, Phenol, reactions 120-80-9, 1,2-Benzenediol, reactions 156-38-7, 4-Hydroxyphenylacetic acid 306-08-1, 4-Hydroxy-3-methoxyphenylacetic acid 504-15-4, 5-Methyl-1,3-benzenediol 533-73-3, 1,3,4-Benzenetriol 608-25-3, 2-Methyl-1,3-benzenediol 614-75-5, 2-Hydroxyphenylacetic acid 621-37-4, 3-Hydroxyphenylacetic acid 1798-09-0, 3-Methoxyphenylacetic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of isoflavones from phenols and arylacetic acids)
IT 457-[illegible]-0P [illegible]-31-8P 2491-32-9P 3669-41-8P 15485-65-1P 17720-60-4P 40456-49-3P 77316-95-1P 89019-83-0P 89019-84-1P 92549-46-7P 139256-02-3P 139256-03-4P 139256-04-5P 150295-88-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of isoflavones from phenols and arylacetic acids)
IT 446-72-0P, Genistein 485-72-3P, 7-Hydroxy-4'-methoxyisoflavone 486-66-8P, Daidzein 491-80-5P, 5,7-Dihydroxy-4'-methoxyisoflavone 574-12-9P, Isoflavone 4044-00-2P, 5,7-Dihydroxyisoflavone 13057-72-2P, 7-Hydroxyisoflavone 19725-36-1P 21913-98-4P 62845-21-0P 63909-40-0P, 7-Hydroxy-2'-methoxyisoflavone 75187-63-2P 89019-85-2P 118024-87-6P 139256-05-6P 139256-06-7P **139256-07-8P** 139256-08-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of isoflavones from phenols and arylacetic acids)
IT **139256-07-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of isoflavones from phenols and arylacetic acids)
RN 139256-07-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 6-chloro-7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



L15 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2003 ACS
AN 1992:105915 HCAPLUS
DN 116:105915
TI Expedient synthesis of polyhydroxyisoflavones
AU Wahala, Kristiina; Hase, Tapio A.
CS Dep. Chem., Univ. Helsinki, Helsinki, SF-00100, Finland
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1991), (12), 3005-8
CODEN: JCPRB4; ISSN: 0300-922X
DT Journal
LA English
CC 26-4 (Biomolecules and Their Synthetic Analogs)
OS CASREACT 116:105915
AB Polyhydroxyisoflavones (19 compds.) were prepd. by reaction of unprotected phenols with arylacetic acid in the presence of BF3.Et2O followed by treatment with MeSO2Cl. In many cases the intermediate deoxybenzoins were also isolated.
ST isoflavone polyhydroxy; deoxybenzoin polyhydroxy; phenol arylacetate condensation
IT Flavonoids
RL: SPN (Synthetic preparation); PREP (Preparation)
(iso-, hydroxy oxo, polyhydroxy-, prepn. of, from unprotected phenols and arylacetic acids)
IT 1835-11-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of)
IT 487-49-0P 2491-31-8P 2491-32-9P 3669-41-8P 15485-65-1P 17720-60-4P 40456-49-3P 52122-86-8P 77316-95-1P 89019-83-0P 89019-84-1P 92549-46-7P 139256-01-2P 139256-02-3P 139256-03-4P 139256-04-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and intramol. cyclocondensation of)
IT 306-08-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with phenols)
IT 67736-18-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 446-72-0P 485-72-3P 486-66-8P 491-80-5P 574-12-9P, Isoflavone 4044-00-2P 13057-72-2P 19725-36-1P 21913-98-4P 32684-57-4P 62845-21-0P 63909-40-0P 75187-63-2P 89019-85-2P 118024-87-6P 139256-05-6P 139256-06-7P **139256-07-8P** 139256-08-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, from phenol and phenylacetic acid)
IT 93-25-4, 2-Methoxyphenylacetic acid 103-82-2, Phenylacetic acid, reactions 104-01-8, 4-Methoxyphenylacetic acid 156-38-7, 4-Hydroxyphenylacetic acid 614-75-5, 2-Hydroxyphenylacetic acid 621-37-4, 3-Hydroxyphenylacetic acid 1798-09-0, 3-Methoxyphenylacetic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenols)
IT 87-66-1, 1,2,3-Benzenetriol 95-88-5, 4-Chloro-1,3-benzenediol